A Complete Bibliography of Publications in *IEEE Spectrum* (2020–2029)

Nelson H. F. Beebe
University of Utah
Department of Mathematics, 110 LCB
155 S 1400 E RM 233
Salt Lake City, UT 84112-0090
USA

Tel: +1 801 581 5254

E-mail: `beebe@math.utah.edu`, `beebe@acm.org`, `beebe@computer.org` (Internet)
WWW URL: `https://www.math.utah.edu/~beebe/`

09 October 2025
Version 1.43

Title word cross-reference

$ [Ulr20b]. **$1** [Pot20b]. **$100** [Cha25b, Sch22a, Sch22d, Sch25b]. 3 [And20f]. **$74** [GA20]. > [Coo22, Gen22]. ^{2} [Cas23c]. $_2$ [Gib25]. X [Cas25d]. Y [Cas25d].

000-Qubit [Cho23]. **000** [Moo25c].

1 [Ano20-51, Koz23d, Ros21]. **1-Trillion-Transistor** [LW24]. **10-Year** [Ack25b]. **100** [Cas22f]. **100th** [Moo22c]. **118** [Smi20h]. **143-Year-Old** [Zor22c]. **1800s** [Ano20-78]. **19** [And20b, Cha20a, Gib21, Ham20a, Has20a, Hut20, NS20, Per20a, Pes20e, Pes21a, Pre20, SHD20, SZ20, Wal22, YS20]. **1935** [Bro22b]. **1950s** [Hoc22]. **1970** [McC20]. **1970s** [Cas25d]. **1990s** [RC25].

2 [Sch21e]. **2-in-1** [Mar25b]. **2.0** [Moo24b, WB21]. **200-Year-Old** [Smi21f]. **2020** [Ano20t]. **2021** [Ano21-115]. **20th** [Moo20c]. **22** [Bro22b]. **2** [Gib25].

3D [BF24, Moo22a, Moo24d, SC23]. **3D-Chip** [Moo24d].

5 [Ros20a]. **536** [Bre20]. **5G** [Hig20i, Koz21b].

6G [Web25]. **6G's** [Pou22].

70-Year-Old [Cly24]. **75-Year-Old** [Abb23].

= [BSAH21, Pal22].

A.A.C. [Smi20h]. **Aakhilesh** [Gen24d]. **Aalyria** [Koz23b]. **Able** [Smi21e]. **Accelerating** [Ulr21, Gar20]. **Accelerator** [Boy24]. **Accelerators** [Gen24l, Gar20]. **Access** [Bai25, Smi22a, Gol22b, Koz21a, Ano21-57, Ano21-58, Ano22-59]. **Accident** [Har21, Ros22a]. **Accordingly** [KK21]. **Accurately** [Sla21]. **Act** [Ack22a, Moo24e, Moo25b, Pat23a]. **Act-Funded** [Pat23a]. **actions** [RS23]. **Activity** [Sla21]. **Actorless** [MWS+25]. **Actually** [Goo25, SG24, Smi21k]. **AD** [Mar24k]. **AD-X2** [Mar24k]. **Adam** [Der22a]. **adapt** [ALRW21]. **adaptations** [Gol24e]. **add** [Zel20]. **adds** [Gol22f]. **Adeshina** [Lau25a]. **ADHD** [And20e]. **Adieu** [Gol24c]. **Adjusted** [Per22c]. **Administers** [KK21, Ano20h]. **adopting** [Ras20b]. **Adrian** [Ano21a]. **Ads** [Ano21-61]. **Advanced** [Kon24, Arm20]. **Advances** [And20c, MCG24, WAC+20, Moo20b, Pes21a]. **advancing** [Nor20a]. **Advantage** [Jag22]. **Advertisement** [Ano20-103, Ano20-104, Ano21-27, Ano21-29, Ano21-30, Ano21-28, Ano21-31, Ano21b, Ano21c, Ano21d, Ano21e, Ano21f, Ano21g, Ano21h, Ano21i, Ano21j, Ano21k, Ano21l, Ano21m, Ano21n, Ano21o, Ano21p, Ano21q, Ano21r, Ano21s, Ano21t, Ano21u, Ano21v, Ano21w, Ano21x, Ano21y, Ano21z, Ano21-63, Ano21-111, Ano21-57, Ano21-58, Ano21-128, Ano21-59, Ano21-137, Ano21-141, Ano21-145, Ano22-46, Ano22-47, Ano22-49, Ano22-48, Ano22-50, Ano22-51, Ano22a, Ano22b, Ano22-27, Ano22-28, Ano22-29, Ano22-30, Ano22-31, Ano22-32, Ano22-33, Ano22-34, Ano22-35, Ano22-36, Ano22-37, Ano22-38, Ano22-39, Ano22-40, Ano22-41, Ano22-42, Ano22-43, Ano22-44, Ano22-45, Ano22c, Ano22d, Ano22e, Ano22f, Ano22g, Ano22h, Ano22i, Ano22j, Ano22k, Ano22l, Ano22m, Ano22n, Ano22o, Ano22p, Ano22q, Ano22r, Ano22s, Ano22t, Ano22u, Ano22v, Ano22w]. **Advertisement** [Ano22x, Ano22y, Ano22z, Ano22-59, Ano22-131, Ano23b, Ano23c, Ano23-28, Ano23-29, Ano23-30, Ano23-31, Ano23-32, Ano23-33, Ano23-34, Ano23-35, Ano23-36, Ano23-37, Ano23-38, Ano23-39, Ano23-40, Ano23-41, Ano23-42, Ano23-43, Ano23-44, Ano23-45, Ano23-46, Ano23-47, Ano23-48, Ano23-49, Ano23-50, Ano23-51, Ano23-52, Ano23-53, Ano23d, Ano23-54, Ano23-55, Ano23-56, Ano23-57, Ano23-58, Ano23e, Ano23f, Ano23g, Ano23h, Ano23i, Ano23j, Ano23k, Ano23l, Ano23m, Ano23n, Ano23o, Ano23p, Ano23q, Ano23r, Ano23s, Ano23t, Ano23u, Ano23v, Ano23w, Ano23x, Ano23y, Ano23z, Ano23-27, Ano23-59, Ano24a, Ano24b, Ano24-27, Ano24-28, Ano24-29, Ano24-30, Ano24-31, Ano24-32, Ano24-33, Ano24-34, Ano24-35, Ano24-36, Ano24-37, Ano24-38, Ano24-39, Ano24-40, Ano24-41, Ano24-42, Ano24-43, Ano24-44, Ano24-45, Ano24-46, Ano24-47, Ano24-48, Ano24-49, Ano24-50]. **Advertisement** [Ano24-51, Ano24-52, Ano24c, Ano24-53, Ano24-54, Ano24-55, Ano24-56, Ano24-57, Ano24-58, Ano24-59, Ano24-60, Ano24d, Ano24e, Ano24f, Ano24g, Ano24h, Ano24i, Ano24j, Ano24k, Ano24l, Ano24m, Ano24n, Ano24o, Ano24p, Ano24q, Ano24r, Ano24s, Ano24t, Ano24u, Ano24v, Ano24w, Ano24x, Ano24y, Ano24z, Ano25a, Ano25b, Ano25-27, Ano25-28, Ano25-29, Ano25-30, Ano25c, Ano25d, Ano25e, Ano25f, Ano25g, Ano25h, Ano25i, Ano25j, Ano25k, Ano25l, Ano25m, Ano25n, Ano25o, Ano25p, Ano25q, Ano25r, Ano25s, Ano25t, Ano25u, Ano25v, Ano25w, Ano25x, Ano25y, Ano25z, Ano20p, Ano21-120, Ano21-144, Ano22-55]. **Advertisements** [Ano20a, Ano20b, Ano20c, Ano20d, Ano20e, Ano21-32]. **Advice** [Gen25d, Ros25]. **advocates** [Gen23c]. **Aerial** [Mie24]. **aerosol** [Ano20h]. **Aerospace** [Gen24e, Pot24, JAR24]. **Affair** [Mar24k]. **affects** [Smi22d]. **Affordable** [WPBS23]. **Africa** [Ano25-102, Bai25, Gol25c, Smi22a, Zac25].

African [Fai21, Moo20c]. **After** [Gol25b, Zor20, Zor22d, Hoc22, Ros20a, Smi20h, Zor23b]. **Afterlife** [WC23]. **Aftermarket** [Usk21]. **Again** [CZG25, Gol24i, Sch21e, Str22b, Cas20i, DM20, Smi22j]. **Against** [Mar23j, Ros23b]. **Age** [Ack22a, Baj24, Bea22, Cas25d, Pes21b, Rak25a, Lee20]. **Agility** [Str25b]. **Ago** [Smi25a, Pat24b, Tho21b]. **agricultural** [Fai21]. **agricultures** [Per20n]. **Agritech** [Gen25d]. **Ahead** [Ano21-55, Gol23d, Gol23h, MWS+25, And20g]. **Ahmad** [Gen25b]. **AI** [Abb23, Ano20f, Ano21-113, Ano23a, BSG22, Baj22, Baj24, Bau24, BBS23, Bro23c, Bro21, BSAH21, Cal22, Cas20d, Chi21, CHM21, Fis24, Gen24a, Gen24h, Gen24j, Gen24k, Gen25d, GH23, Gol22a, Gol22b, Gol23a, Gol24h, Gol24f, Hsu20a, Koz23a, Koz24c, Lau24a, LW24, MMM24, Mar25f, Mar23k, MSS21, Moo22b, PN20, Per20f, Rak25c, Rak25a, Ros25, SHP24a, Sch21a, SSJ+25, Scu20b, SJY25, Smi24, Smi25b, Str21, Str22a, SZ23, Str24a, VA23, Wal20a, Zdr25, Zor25b]. **AI-assisted** [Hsu20a]. **AI-Generate** [VA23]. **AI-Generated** [Koz23a]. **AI-Powered** [Lau24a]. **Aibo** [Ack24b]. **aided** [Hoc22]. **aides** [Bar20]. **aids** [Sch20b]. **Aim** [AZPC22, Smi23a]. **Aims** [Gen23e, Dum20]. **Air** [AZPC22, Cas25f, NG23, Smi21n, DM20, Gal21b, Smi20h]. **Air-Quality** [Smi21n]. **Air-Taxi** [AZPC22]. **Aircraft** [Mos25a, Zor25a, Ros21]. **airliner** [JAR24]. **Airliners** [And25a, Sch21e, Smi21e]. **Airplane** [Mos25a]. **airplanes** [Cri20]. **Airport** [Pep25]. **Airship** [Koz23d]. **AI's** [Wal25b, Cho21, Usk21]. **Alan** [Cop25]. **alchitry** [Cas20f]. **Alerts** [Fit21]. **Alexa** [Has20b]. **Algebra** [Smi22c]. **Algorithm** [Cal24, Wal22]. **Algorithmic** [Lau24b]. **Algorithms** [RZ21, Per20e, Per21b, Str20b]. **Alien** [BMRW20]. **All-Digital** [Bow21]. **All-Electric** [Ulr21]. **All-Metal** [Cha21a]. **All-Purpose** [Chi21]. **All-Seeing** [Baj24, GAG20]. **All-Sky** [Sch23c]. **Allaire** [Cas22d]. **allowed** [Tho21b]. **allows** [Bra21]. **Almost** [Jon24a, Per21c, Svr23, Sch21b]. **Alone** [MMM24, OSK25, Rae20]. **along** [Pat22]. **Alphabet** [SJY25]. **alphaXiv** [Gen25b]. **Already** [Bog25, Pat24a]. **Also** [Pat23b, AFH22]. **Alt** [Shi22]. **Alt-Tech** [Shi22]. **Altarock** [Gal20a]. **alternative** [MMP22, Moo21]. **Alternatives** [Der22a]. **Alto** [Bro23a]. **Always** [Pot24, SM24]. **Am** [Bro22b]. **Amanda** [Gen25a]. **amazing** [Cas22e]. **Amazon** [Has20b, Jon23b]. **ambition** [Zor22a]. **Ambitious** [Gol25i]. **AMD** [Moo23a, Zdr25]. **America** [Ano20t]. **American** [Moo20c]. **Amethyst** [Sar20]. **Ammonia** [Gal21a]. **amounts** [Jaf22]. **Amp** [Pau22]. **Amplifiers** [Shi22]. **Analog** [BSAH21, Cas24b, Kin25, Cas20b]. **Andrew** [Jon23a, Str22a]. **angel** [Per20k]. **Anguilla** [Koz24c]. **Angus** [Der22g]. **Animatronic** [Mar24e]. **Ankur** [Der21h]. **anniversary** [Moo22c]. **Annual** [Cas21d, Per22c]. **anodes** [And20c]. **Anonymous** [Hig20a]. **Answer** [Smi25b]. **Antenna** [Cha21a, Sch22b]. **antennas** [Cas22b]. **Anthrax** [Mar21h]. **antibody** [And20b]. **Antigenic** [Wal22]. **antiracist** [Hsu20a]. **antiviral** [Ano20h]. **antivirals** [Scu20b]. **Anton** [Koz23a]. **any** [And20f, RK22, Svr23]. **Anyone** [Cha23]. **Anything** [Lev21]. **Anytime** [Bro21]. **anywhere** [YS20]. **Aperture** [Van23]. **Apocalypse** [SZ23]. **Apollo** [Cas22g]. **Apollo-Era** [Cas22g]. **App** [Fai21, BBS23, Per20l]. **app-controlled** [Per20l]. **appear** [And20c, WB21]. **Appetite** [Gol24h]. **Apple** [Smi22h, Per21a]. **Application** [Gen25a]. **Applying** [Ano20f]. **Approach** [Zdr25, Cly22]. **Apps** [Gen25d, Hsu20b]. **Aquaculture** [SJY25]. **Aquatic** [CZG25]. **AR/VR** [Per20j]. **Arc** [Mar21i]. **architect** [Der20]. **Architecture** [Kas23]. **Archivists** [Gol25g]. **Arctic** [Rab22]. **Arduino**

[Sch23b]. **Arduino-based** [Sch23b]. **Argotec** [BD22]. **Argumentative** [Ano23a]. **Arjun** [Goo23a]. **Arm** [Ack24c, Ano23-133, FBMI23]. **Armageddon** [AL25]. **Arms** [You22, Ros20a]. **Army** [Ack21b]. **Arpanet** [Cro20]. **Arrays** [BF24]. **Art** [Fra21, Jon22d, Koz23a, Rak25a, SM24, McC20]. **Arthritis** [Dol23a]. **Arthur** [Gen24e]. **Artificial** [Gol23a, KK21, Lau24a, Zim21, Fun20, Hut21]. **Artist** [Gol23f, Gol24g, WB21]. **Asad** [Per22a]. **Ascendant** [Smi21j]. **Ashore** [Fai24a]. **Asia** [Fru20]. **aspect** [Smi22d]. **Assisted** [Sch24b, Hsu20a]. **Assistive** [Jon23a, Gol22e]. **Asteroid** [GO22]. **Asteroids** [Cha25a]. **astray** [Hut20]. **Astrobiology** [SSJ+25]. **Astronaut** [Ste21]. **Astronomy** [Cas25a, Sch24b]. **athletes** [Pat22]. **Atom** [Rad20]. **Atom-thick** [Rad20]. **Atomic** [CFPP22, Gen24c]. **Atomically** [WB21]. **Attack** [Ano20g, Mar25a]. **attain** [And20i]. **Attorneys** [Gol24i]. **attracting** [Per20f]. **Audio** [Gan24, LDO22, Pau22, Sch20b]. **Augmented** [Ros22a, HVW20, Per21a]. **augmented-reality** [HVW20, Per21a]. **August** [GO22]. **Austin** [Gen25i, Moo25a]. **Australia** [Fai23b]. **Authenticators** [TB21]. **author** [Ano20p]. **autism** [Bar20]. **Autistic** [JKW25, HVW20]. **Autodidacts** [Jon23c]. **Autoimmune** [Dol23a]. **Automakers** [Cha23]. **Automate** [Lau24a]. **Automated** [Aro24, Zor23c]. **Automatic** [Mar24f, Ros22c]. **Automating** [Scu20b]. **Automation** [Coo21, Mar23k, Has20b, Scu20b]. **Automaton** [Ano20h, Fru20]. **Autonomous** [Ack22c, Ack23c, Ano20i, Der22g, LG20, Ros23a, Smi23a, AG20, And20a, Ano20-90, Der22h, Per20l, Wea20]. **Autonomy** [Jon24c, OSK25, And20g]. **AV** [And20g]. **available** [Pou22]. **Avatar** [Ack23a]. **Avicena** [Moo23b]. **away** [Per22a]. **AWS** [Ano20-95]. **Axial** [GP22]. **Axial-Flux** [GP22]. **AxiDraw** [Cas20g]. **Ayar** [Moo23b].

B [Der21g]. **Back** [Ano20g, Ano20j, Ano20k, Ano20r, Ano20q, Ano20-69, Ano20-47, Ano20-48, Ano20-81, Ano20-92, Ano20s, Ano20-80, Ano20-102, Ano21-49, Ano21-50, Ano21-47, Ano21-48, Ano21-62, Ano22-46, Ano22-47, Ano22-50, Ano22-122, Ano22-132, Cas23c, Gol23d, Jon24a, LDO22, Luc20a, Rab22, Rak25b, WC23, Ano20-74, Ano20-75, Ano20-85, Red20, Ros20a, Sch21b, Ano20l, Ano20m, Ano20n, Ano20o, Ano21-33, Ano21-34, Ano21-35, Ano21-36, Ano21-37, Ano21-38, Ano21-39, Ano21-40, Ano21-41, Ano21-42, Ano21-43, Ano21-44, Ano21-45, Ano21-46, Ano22-52, Ano22-53, Ano22-54]. **Backbone** [Tow21]. **backers** [AS22]. **backpack** [Ham20d]. **backup** [Sch20c]. **Bad** [Cho21, Smi21l]. **baggage** [GAG20]. **Baidu** [Smi23a]. **Bajcsy** [Ack24a]. **Balance** [AFH22]. **Balancing** [Str25b]. **Balloons** [Sch22b]. **ban** [SG22]. **Bandgap** [Mis23]. **bands** [RHBM22]. **Bandwidth** [BD22, FBMI23, Web25, Pou22]. **Bang** [Sch21b]. **Bangladesh** [Fai20a]. **Banish** [Poo24b]. **Bank** [Pau22]. **bare** [Cas20h]. **bargain** [Ano20-45]. **Barometer** [Sch22a]. **barrier** [Moo20e, Pan20]. **Based** [GPUB25, Sch23a, Tei23, Ack23d, Cas23d, Cas24d, Gol24a, Moo23b, Sch23b, Zor20]. **Basic** [Gen24c]. **Batteries** [Bla25, Cha24, Smi21e, And20c, Ano20i, Cri20, Fai21, Kum21, MW20, Moo21, Pat20, Ulr20b]. **Battery** [Bow21, GH23, Kum21, Mur23, Kum20]. **Battle** [Cas20b]. **Battlefield** [Ack21b]. **battling** [YS20]. **BBS** [Cas25f]. **Be** [Cas22c, Pot24, Ack23d, And20b, Ano20-68, BS22, Cas22g, Cas23d, Cas24e, Cho21, CHM21, DM20, FBMI23, Gen25b, Gol24d, Gui20, Hsu20a, Hsu20b, MMM24, Moo22c, Pat22, Pot20b, RC25, SG24, Sch21d, Sch22e, Smi21d, Smi22l, Smi23c, VH20, WPBS23].

Beam [Smi21d]. **beamed** [Jaf22]. **Beaming** [Bar24]. **Beams** [Mos22]. **Bear** [Pep25]. **Beat** [Ack23c, Cha24]. **Beatles** [Arm20]. **Became** [Deg24, Smi25a, Ano20-68]. **Because** [Ano21-27, Ano22-55]. **Become** [Ano20p, Ano21a, MS22, Ros22c]. **Becomes** [SH22b]. **Becoming** [TGLM21]. **Bee** [Jon24c]. **Been** [Smi21m, Der23c, Gol24d, Koz24c, Per21b, Smi22g]. **Before** [Gen22, Gen25e, Jon23k, Mul24, NG23, Pes21a, SG24, Sch21b, BMRW20, Dut22]. **began** [Tem20]. **begin** [Koz23d]. **beginning** [Smi22d]. **Begun** [Gol24i, Usk21, Ulr20c]. **Behemoths** [Fai23a]. **Behind** [AZPC22, Jon25, Koz23a, She24, Smi25b, HP20, Hut20]. **Behold** [Mar24a]. **Being** [Gen24g, Pes20a, SM24]. **Bekeryte** [Gen24g]. **Bell** [Der21e]. **bellwether** [Ano20s]. **Below** [CPBZ21]. **bend** [ZL20b]. **bendable** [Som21]. **Bertrand** [Zor25a]. **bespoke** [Dum20]. **Best** [Ack23c, Ano21-144, Ano22-131, Ano22-132, Der21g, GP22, Sto23, Wat24, Ano20-103, Ano20-104, Ano21-145, Pot20b, Wal20a, Rao24]. **Bet** [Ano21-53, Koz24d, MCG24]. **bets** [Rak24a, Sch21a, Ulr20b]. **Better** [Baj22, Bro23c, BSAH21, Cox25, Gen25c, Gol22a, OSK25, Sch25a, Ano21-91, Arm20]. **betting** [Scu20b]. **Between** [Gol24a, Ano20-79]. **Beware** [Bro22d, Ros22b]. **Beyond** [Ano21-124, Cas24b, PSD22, BS22, Ros20a]. **bias** [Str20b]. **biased** [Hut21]. **Bids** [Gol24c]. **Big** [Ano21-53, Ano21-54, Ano21-55, Ano21-56, Ano21-51, Ano21-52, Ano21-114, Ano21-136, Ano22-56, Ano22-57, Ano22-58, Cly20, Der22a, Gen25c, Gol25i, Koz21a, Koz24d, LH24, MCG24, McC20, Poo24b, Rak25c, Ras20b, Sch24c, Str22a, Ano20-71, BS22, DM20, Ulr20b, Sch21b]. **Biggest** [Hub24]. **Bike** [Sch21d]. **bikes** [MMP22]. **Billion** [Cha25b, Per24b, Ulr20b]. **Billion-Dollar** [Per24b]. **Billions** [Ack25b, Bog25, Fis24, Smi25b]. **Biofuels** [MW20]. **Biology** [Ano20q]. **Biometric** [Pep25]. **Bionic** [Str22b, SH22b, You22]. **Bionic-Hand** [You22]. **Biosensor** [Kir25]. **Biosensors** [Per20a]. **Birding** [Sch24a]. **Birds** [Sch24a, Smi20c]. **Bit** [Coo21]. **Bitcoin** [Per22b]. **Bits** [Cas22g, Sar20]. **Black** [Mar21d, Per20b, Poo24b, Wal25a, Bou20, Moo20c, Zee25]. **BlackFly** [Zor23c]. **Blades** [Mos25a, Wal25a]. **Blazed** [Gol24c]. **Blessin** [Sac20]. **blimp** [Rae20]. **Blind** [Jon23a, SH22b, Tho21b]. **Bling** [Mar24j]. **Bloat** [Hub24]. **blockchain** [Per20j, Sto20]. **blocks** [And20b]. **Blood** [Kir25, KK21, Wal24b]. **Blooms** [Gol25b]. **Blowback** [Gol25h]. **Blue** [Moo23b]. **board** [Ack21a, Lew20, Per21a, RG20]. **Boarding** [Pep25]. **Boat** [Smi21d]. **Bob** [Gol24f]. **Body** [Smi21e, SH22b, Ano20r, SMD20, Som21]. **body-conforming** [Som21]. **Boeing** [JAR24]. **Bold** [RS23]. **bolsters** [CFPP22]. **Bomb** [Zor24a]. **Bombs** [Smi22i]. **Bon** [And20a]. **Bonding** [Moo24d]. **Boom** [Bro22c, CFPP22, Fis24, Gol25b, Jag22, LW24, Per25, Koz24c, Str21, Ros21]. **boom-and-bust** [Str21]. **Boost** [Bow21, Bro23c, Poo24a, Cha24, Fun20, Moo20b]. **Boosters** [Bro22a]. **Boot** [Ack21b, Koz24b]. **boozy** [Ano20-100]. **boredom** [Wal20b]. **Borkowski** [Gen24i]. **Born** [Bro22b, Mar20a, Mar24c]. **Bos** [Gen25g]. **Bosch** [Gen24d]. **Boss** [Per25]. **Boston** [Ack22b]. **Bot** [Gol25a]. **Both** [Gan24, Gol24j, VA23, Hsu20b]. **Bottlenecks** [Mos25b]. **Bought** [Cha25b]. **Box** [Cas24f, Jon23h, Mar21d, Sch20d]. **boxes** [Ack22b]. **Brain** [AS22, Bou21, Cha21b, Dol25, Dut22, Jon23c, Wal24b, Ack20, Dol23b, Gen24h, SG22, WAC$^+$20]. **Brain-Controlled** [Jon23c]. **Brain-Implant** [Wal24b]. **brain-inspired** [Gen24h]. **Brains** [Mar24d]. **Brakes** [Ros22c]. **braking** [Ros22c]. **Brand** [Cas24b]. **Brass** [Mar24d]. **Break**

[Gar25, Pau22]. **Breaking** [Dol25, JKW25, Pan20, Hec20]. **breakout** [Lew20]. **breakthrough** [And20b, Pri21]. **Breeder** [Pat23b]. **Brew** [Szk21]. **Brewed** [Ack23d, Cas23d]. **Bricked** [Pes21b]. **Brief** [Ack24b]. **Briefcase** [Gen24c]. **Bright** [SS25]. **Brightest** [NYI24]. **Brij** [Der23a]. **brilliance** [Zor22a]. **Bring** [Rak25b, WC23]. **Bringing** [Red20, Str25a, Lee20]. **Brings** [Cas24d, Gen23b]. **briny** [Pat24a]. **British** [Mar25f]. **Brittle** [Cho21]. **Broadband** [Gol25c, Lau25b, Per25, Hig20h]. **broadcast** [Ano20-46]. **Brooklyn** [Ano20-100]. **Brutal** [Cha21a]. **Bugs** [Sca22]. **Build** [BF24, Cas20e, Cas25a, Cas25b, GK24, Jon23c, Sch20c, Szk21, Cro20, Per22b]. **Building** [Bro22c, CHM21, Der22e, Mos25a, Pat23a, Smi20a, Wal24a]. **buildings** [AF23]. **Builds** [Der22g, Gen24e, Kum21]. **Built** [Cha21b, Coh22, Sch24c]. **Bulb** [SS25]. **Buolamwini** [Str24a]. **buoyancy** [Rae20]. **Buoyant** [Fai23a]. **Burandt** [Gol24i]. **Buried** [CPBZ21, Sch22d]. **Bursts** [Sch22a]. **Buses** [Ano22-56]. **business** [Pes20d, Rak24a]. **bust** [Str21]. **Butler** [GK24]. **Button** [AL25, Cas25e]. **Buttonization** [Rak25b]. **Buttons** [Rak25b]. **Buy** [Zor23c, GA20].

C [Ack25b, Cas23c, Gib25, Moo25c]. **C64** [Cas25b]. **C64s** [Ake23]. **cab** [Ulr20a]. **Cable** [Zee25, Koz21a]. **Cables** [Lau25b]. **calculator** [Cas20h]. **California** [Ano20-101]. **Call** [Gol25e]. **Called** [GO22]. **Calling** [MZR21, Mar20b]. **Calls** [Smi22c, Ano20-79]. **Calories** [Mar21b, Sla21]. **Came** [Mar25g]. **Camera** [Sch23c, PK20]. **camera-town** [PK20]. **Cameras** [Gob23, Per21a]. **Camp** [Ack21b]. **Campaign** [SG22]. **Can** [Ack22a, Ack23b, And25c, AF23, BVKR23, Bau24, Bra21, Car24, Cas22g, Cas23c, Cha21a, Cha24, Cly23, DM20, FBMI23, FK21, Gol22a, Hsu20a, Hsu20b, Lau24a, MZR21, NG23, ROK24, Sch21d, Sch23a, Sch25b, Sha23, Smi21d, Szk21, Wal22, Zor23c, Ack22b, AFH22, BF24, BMRW20, Cas20a, Cas20f, Cas24e, Cha25a, Cho21, Der20, FOSMD23, Fra21, Gib21, Gol22b, GA20, Hec20, LA22, OSK25, PN20, RHBM22, Sch21a, SSJ+25, Scu20b, SHD20, Svr23, Wal20a, ZL20b]. **canceling** [Ros20b]. **cancellation** [Bra21]. **cancer** [Arm20]. **candidate** [Per20f]. **Can't** [Gen25g, RK22, Smi22k, Wal20a]. **Capable** [LH24, GA20, Sar20]. **capacity** [Fai23b]. **Capture** [Gib25, Pat24a, Sch23c, Ano20-100, Gal21b]. **car** [Ano20-69, GA20, Per20k, Smi23a]. **Carbide** [MZR21]. **Carbon** [Gal21b, Gib25, Pat24a, Smi21j, Smi22b, Smi22c, Ano20-100, Gal21a]. **carbon-capture** [Ano20-100]. **Carbon-Sucking** [Gal21b]. **card** [Per22b]. **Care** [Cha25b, Str20b]. **Career** [Gen24a]. **Careers** [Ano20-95, Ano21a, Ano21-60, Ash23, Bar20, Cas20i, Der20, Der21a, Der21b, Der21c, Der21d, Der22a, Der22g, Der23a, Der23c, Der23b, Der23d, Gen23a, Gen23b, Gen23c, Gen23d, Gen24e, Gen24d, Gen24f, Gen24g, Gen24h, Gen24i, Gen24j, Gen24k, Gen25e, Gen25g, Gen25f, Gen25h, Gol23f, Lau25a, McD25, Per20j, Per20m, Per20i, Per24a, Rak25c, Ros25, Sac20, SG24, Zor23a]. **Caretakers** [Gol25a]. **cargo** [DM20, Gal21a, Pat24b, Ros22d]. **Carolina** [Gen25e]. **Carry** [Mos25a, Hec20]. **Cars** [Ack21a, Gen24d, Mar23k, WPBS23, And20g, Hsu20c, Pan20, RHBM22, Ulr20c]. **Cartridge** [Cas25b]. **Carves** [Cas22d]. **Case** [Abb23, Ano21-140, Ano21-141, BSG22, Gol24i, BCM+19]. **Castles** [Bar24]. **Cat** [Cas24f, Per21b]. **Cate** [Koz24c]. **Catfish** [Mar21a]. **cathode** [Cas20e]. **cathode-ray** [Cas20e]. **cathodes** [And20c]. **Caucasus** [Zee25]. **CDs** [Nor20a]. **Celebrate** [Gol22d, SM24]. **Celebration** [Ano21-142]. **Cell**

[And25b, Zor25a, WAC+20]. **Cellphones** [Lau23b]. **cells** [Gal21a, Ulr20b, WAC+20]. **Center** [HH24, Jon23f, Gol22e, ZL20a, Gen24i]. **Central** [Gol21]. **Centric** [MCG24]. **Centuries** [Cas25c]. **Century** [Gol25b, Mar23j, Lee20, LDO22, Moo20c, Tho21b]. **century-old** [Lee20, LDO22]. **CEO** [Koz23b, Zor23a]. **CEOs** [NS20]. **Cerf** [Per23]. **CERN** [Gen24l]. **Certifiably** [Pes20b]. **chain** [RG20]. **Chakraverty** [Gen23d]. **Challenge** [Ack22c, Smi22d]. **Challengers** [Smi24]. **Challenges** [Gol23h, Gol25i, NG23]. **champion** [Cas20b]. **Change** [Bro22c, FK21, Tei23, MW20]. **Changed** [Gol22c, NS20]. **Changing** [SC23, Ano20-45]. **channel** [SMD20]. **characteristic** [Smi22j]. **Characterization** [Ano21-138, Ano21-137]. **characters** [Cas20a]. **Charge** [Ano22-56]. **Charger** [RC25]. **Charging** [RC25, Ulr20a]. **Chasing** [Sch22b]. **Chasm** [Gol24a]. **Chatbot** [Gol23g]. **Chatbots** [Str25a]. **Cheap** [Sch22b, Sch24a, Sch24b]. **Cheaper** [MD23, RC25, Ros23b]. **Checkered** [Eis23]. **Chenming** [Per20c]. **Chess** [Gol22b, Mar23a]. **chicken** [Smi20g]. **Chief** [CD21, Zor24b]. **Chile** [Bog25, SG22]. **China** [And20i, Pat22, Pat23b, Sto20]. **Chinese** [Mul24, Smi23a]. **Chip** [Aro24, Gen24b, GPUB25, Gol24h, Kim22, Kin25, LA22, LW24, MMM24, Moo24d, Moo24a, Per25, WPBS23, Moo20e]. **Chiplets** [Moo20b, Moo23a]. **Chipmaker** [Zdr25, Rak24a]. **CHIPS** [Moo24e, Gol24b, Moo22b, Moo24c, Moo25b, Ano20-87, Cho20, Sar20, Pat23a]. **Choong** [Kim22]. **Choong-Ki** [Kim22]. **Chores** [GK24]. **Chris** [Koz23b]. **Christian** [Bar20]. **Christiane** [Rak25a]. **Christiansen** [Zor24b]. **Chronicles** [Gol23f]. **Chutzpah** [SM24]. **Cinema** [MWS+25]. **Circa** [Mar23a]. **Circuit** [Bow21, Dol25, RG20].

circuitry [Cho20]. **Circuits** [BSAH21, Der22d, MZR21]. **cities** [Ong20, Sto20]. **Citizen** [Gol23e]. **Citizens** [Gen25h]. **city** [MMP22]. **civilization** [Gol22c]. **claimed** [Der22f, Pot20b]. **Claiming** [Smi20b]. **Clapping** [Mar24l]. **Clarion** [Gol25e]. **Clark** [Zor23a]. **Clash** [Koz21b]. **clashed** [McC20]. **Class** [Jon22f, Kol25, Zor23c]. **classic** [Cas20h]. **Classical** [MMM24, MCG24, CD21]. **Classical-Quantum** [MCG24]. **Classified** [Ano21-61]. **Classrooms** [Str25a]. **Clean** [Zee25]. **Cleaning** [Gen24g]. **clear** [Smi22d]. **Clever** [Ash23, Hoc22]. **click** [Cas24e]. **clickbait** [BSG22]. **Clients** [Per24a]. **Climate** [Bro22c, Fis24, FK21, Tei23, Pat22]. **climate-friendly** [Pat22]. **clinics** [Der20]. **Clippers** [Bro22b]. **Clock** [Gen24c, Wat24, Cas20e]. **close** [Koz23b]. **cloud** [Pes21a, RS23]. **Clueless** [Cha23]. **Clunky** [Cha25b]. **Clustering** [Cas21c]. **CMOS** [Moo24b, PK20]. **CO** [Gib25]. **Coal** [JJS22]. **Cob** [Gol24i]. **cockpit** [Mar20b]. **cockpits** [Der20]. **code** [Cas20a]. **Coding** [VA23, Zdr25]. **Cognitive** [BMRW20]. **coil** [Sch20b]. **Cold** [Abb23, Zor22e, BCM+19, Ama25, Arm20, Mar25a]. **Coldness** [AF23]. **collaborated** [McC20]. **collaborating** [JAR24]. **Collaboration** [Gol24g]. **collaborative** [Cro20]. **Collapse** [Smi22m]. **colleagues** [Per20b]. **collect** [Sch22c]. **Color** [De 22, HF22, SC23]. **Colossus** [Mar20j]. **combat** [Str24b]. **Combating** [Ano21-62]. **Combination** [MMM24, SZ20]. **Combined** [Bro23a]. **Combines** [GP22]. **combustible** [Zor22a]. **Come** [McD25, LSM23, Pal22]. **Comes** [Cas25f, Dum23, Moo22b, Wat24, Zor22e, And20e, Ano21-113, Per20l]. **Comfy** [Gol25a]. **Coming** [Gol24d, Gol25b, Moo24c, Smi24, Tow21, Lau24b, Sch20a]. **command** [Ano20-50]. **command-print** [Ano20-50]. **commercial** [Ros21]. **commercialize**

[Cly20]. **Commercializes** [Der22c]. **Commodordion** [Ake23]. **common** [Koz24d]. **Comms** [Cas23c]. **communicate** [Ong20]. **Communication** [Per24a, Ano20-79, Mit20]. **Communications** [Ano21-115, Zor22b]. **Compact** [Sch25a]. **Companies** [WC23, Ack24d, Cly20, Per20a, Per20f, Ras20b]. **Company** [Cho23, Koz23a, Lau24a, Smi21l, Wal24b, Has20b]. **comparable** [SB22a]. **Compelling** [Gen23d]. **Competitors** [Rak24a]. **Compiling** [CG23]. **complacency** [Pes20c]. **complaint** [Koz24d]. **complement** [MMP22]. **completely** [Pan20]. **complexity** [Gol22f]. **Complicated** [You22]. **components** [Koz21b]. **Compression** [Per21b]. **Compute** [Gol24h, Moo24c]. **Computer** [Cal22, Cas24b, Kas23, Mar23a, Mar24j, Sch23b, Sch24c, Per20o, Sar20, VH20]. **Computer-vision** [Cal22]. **Computers** [HH24, AMK+20, BS22, Gen24h, VH20]. **Computing** [Bro23a, CD21, GPUB25, Moo22b, Moo23b, MWS+25, Ham21, Pes21a, Ras20b, Sch21a]. **COMSOL** [Ano20t, Ano21-29, Ano21-30, Ano21-28, Ano21-63, Ano23-59]. **Concept** [Smi22l]. **Concerning** [CD21]. **Conclusion** [Mar23k]. **Concrete** [Ano20u, Fis24]. **conditioning** [Smi20h]. **Conditions** [Rab22]. **Conference** [Ano21-115, Ano20t]. **confidential** [Ras20b]. **Configurations** [ROK24]. **Confinement** [BBFS22]. **conforming** [Som21]. **Congress** [Fai23c]. **Conjurer** [Per21b]. **connected** [BMRW20, Ong20]. **connected-vehicle** [Ong20]. **Connecting** [Gol25c]. **Connection** [Moo24d]. **Connections** [Gol24f]. **Connnected** [FOSMD23]. **Conquer** [Ack22c]. **Cons** [SG24]. **consensus** [Cro20]. **Consent** [WC23, Hig20c]. **Consequential** [Gol23f]. **conserve** [Gar20]. **consortium** [NG23]. **Constructing** [VH20]. **Consumer** [Gob23, Per20g, Der22f]. **Consumers** [Cha23]. **contact** [Hsu20b, Pes21a]. **contact-tracing** [Hsu20b]. **contacts** [Cas22e]. **Content** [Str24b]. **Contents** [Ano20v, Ano20w, Ano20x, Ano20y, Ano20z, Ano20-27, Ano20-28, Ano20-29, Ano20-30, Ano20-31, Ano21-64, Ano21-75, Ano21-65, Ano21-66, Ano21-67, Ano21-68, Ano21-69, Ano21-70, Ano21-71, Ano21-72, Ano21-73, Ano21-74, Ano22-60, Ano22-68, Ano22-69, Ano22-70, Ano22-71, Ano22-61, Ano22-62, Ano22-63, Ano22-64, Ano22-65, Ano22-66, Ano22-67, Ano23-60, Ano23-65, Ano23-66, Ano23-67, Ano23-68, Ano23-69, Ano23-70, Ano23-61, Ano23-62, Ano23-63, Ano23-64, Ano24-61, Ano24-67, Ano24-68, Ano24-69, Ano24-70, Ano24-71, Ano24-72, Ano24-62, Ano24-63, Ano24-64, Ano24-65, Ano24-66, Ano25-31, Ano25-36, Ano25-37, Ano25-38, Ano25-39, Ano25-40, Ano25-32, Ano25-33, Ano25-34, Ano25-35, Ano20-98, Ano21-113]. **Context** [Wal25b]. **Continent** [Smi22a]. **Continents** [Moo25c]. **Contrera** [Gen24j]. **Contributions** [Gol24f]. **Contributors** [Ano20-32, Ano20-33, Ano20-34, Ano20-35, Ano20-36, Ano20-37, Ano20-38, Ano20-39, Ano20-40, Ano20-41, Ano20-42, Ano20-43, Ano21-76, Ano21-87, Ano21-77, Ano21-78, Ano21-79, Ano21-80, Ano21-81, Ano21-82, Ano21-83, Ano21-84, Ano21-85, Ano21-86, Ano22-72, Ano22-80, Ano22-81, Ano22-82, Ano22-83, Ano22-73, Ano22-74, Ano22-75, Ano22-76, Ano22-77, Ano22-78, Ano22-79, Ano23-76, Ano23-77, Ano23-78, Ano23-79, Ano23-80, Ano23-81, Ano23-71, Ano23-72, Ano23-73, Ano23-74, Ano23-75, Ano24-79, Ano24-80, Ano24-81, Ano24-82, Ano24-83, Ano24-73, Ano24-84, Ano24-74, Ano24-75, Ano24-76, Ano24-77, Ano24-78, Ano25-46, Ano25-47, Ano25-48, Ano25-49, Ano25-50, Ano25-41, Ano25-42, Ano25-43, Ano25-44, Ano25-45]. **Control** [Ano21-138, Ano21-137, Bor24, FBMI23, SHD20]. **Controlled** [Jon23c, Per20l]. **controversial** [Sch22c].

conventional [Ong20]. **Conversation** [Gol23g]. **Convolutional** [Fra21]. **Cooker** [Mar24f]. **Cool** [Gen24i, AF23]. **COP26** [Smi22c]. **Copies** [Gol25g]. **Copilots** [Zdr25]. **Copper** [Moo24d]. **Copy** [Cha21b, Per20o]. **Core** [Cas22g]. **Corners** [RHBM22]. **coronavirus** [And20b, Ham20a, Per20e, Wal20a]. **Corporate** [HS23]. **Correction** [BS22]. **Cosmos** [Bog25]. **Cost** [Poo24b, TGLM21, Ver24]. **Costliest** [Smi22d]. **Costly** [You22]. **costs** [Gar20, Moo20b]. **Could** [Bai25, BD22, Boy24, Cas25c, CP21, Gol25f, GK24, Kir25, Moo24e, Pat23b, Poo24b, Smi21j, TB21, Wal21, WC23, AMK+20, Cho20, CHM21, Gal20a, Gal21a, Gar20, Gen25c, Gui20, Jes21, LCBH20, Moo24c, Ong20, Pat20, Pat24b, Per21a, Raf20b, RS23, WB21]. **Count** [Sla21, Smi24, Hig20e]. **Counterfeiters** [TB21]. **Counting** [Mar21b]. **Countries** [Smi21k]. **Country** [Kim22, Lau25b, Fai23b, JJS22]. **Course** [Cas25d]. **Courts** [Smi23c]. **Cover** [Ano21-88, Ano21-89, Ano21-90, Ano21-92, Ano21-93, Ano21-96, Ano21-103, Ano22-95, Ano22-103, Ano22-88, Ano22-96, Ano22-104, Ano22-89, Ano22-97, Ano22-105, Ano22-90, Ano22-98, Ano22-106, Ano22-91, Ano22-99, Ano22-107, Ano22-84, Ano22-92, Ano22-100, Ano22-85, Ano22-93, Ano22-101, Ano22-86, Ano22-94, Ano22-102, Ano22-87, Ano22-112, Ano22-113, Ano22-114, Ano22-115, Ano22-116, Ano22-117, Ano22-118, Ano22-119, Ano22-120, Ano23-82, Ano23-96, Ano23-105, Ano23-88, Ano23-97, Ano23-106, Ano23-89, Ano23-98, Ano23-107, Ano23-90, Ano23-99, Ano23-108, Ano23-91, Ano23-100, Ano23-83, Ano23-92, Ano23-101, Ano23-84, Ano23-93, Ano23-102, Ano23-85, Ano23-94, Ano23-103, Ano23-86, Ano23-95, Ano23-104, Ano23-87, Ano23-112, Ano23-113, Ano23-114, Ano23-115, Ano23-116, Ano23-117, Ano23-118, Ano23-119, Ano23-120, Ano23-121, Ano23-122, Ano24-100, Ano24-111, Ano24-90, Ano24-101, Ano24-112, Ano24-91, Ano24-102, Ano24-113, Ano24-92, Ano24-103, Ano24-114]. **Cover** [Ano24-93, Ano24-104, Ano24-115, Ano24-94, Ano24-105, Ano24-116, Ano24-95, Ano24-106, Ano24-117, Ano24-85, Ano24-96, Ano24-107, Ano24-86, Ano24-97, Ano24-108, Ano24-87, Ano24-98, Ano24-109, Ano24-88, Ano24-99, Ano24-110, Ano24-89, Ano24-119, Ano24-120, Ano24-121, Ano24-122, Ano24-123, Ano24-124, Ano24-125, Ano24-126, Ano24-127, Ano24-128, Ano24-129, Ano24-130, Ano25-51, Ano25-64, Ano25-73, Ano25-56, Ano25-65, Ano25-74, Ano25-57, Ano25-66, Ano25-75, Ano25-58, Ano25-67, Ano25-76, Ano25-59, Ano25-68, Ano25-77, Ano25-60, Ano25-69, Ano25-52, Ano25-61, Ano25-70, Ano25-53, Ano25-62, Ano25-71, Ano25-54, Ano25-63, Ano25-72, Ano25-55, Ano25-81, Ano25-82, Ano25-83, Ano25-84, Ano25-85, Ano25-86, Ano25-87, Ano25-88, Ano25-89, Ano25-90, Ano20j, Ano20k, Ano20l, Ano20m, Ano20n, Ano20o, Ano20-52, Ano20-53, Ano20-54, Ano20-55, Ano20-56, Ano20-57, Ano20-58, Ano20-59, Ano20-60, Ano20-61, Ano20-62, Ano20-63]. **cover** [Ano20-64, Ano20-65, Ano20-74, Ano20-75, Ano20-76, Ano20-77, Ano21-33, Ano21-34, Ano21-35, Ano21-36, Ano21-37, Ano21-38, Ano21-39, Ano21-40, Ano21-41, Ano21-42, Ano21-43, Ano21-44, Ano21-45, Ano21-46, Ano21-94, Ano21-95, Ano21-97, Ano21-98, Ano21-99, Ano21-100, Ano21-101, Ano21-102, Ano21-104, Ano21-111, Ano21-105, Ano21-106, Ano21-107, Ano21-108, Ano21-109, Ano21-110, Ano22-46, Ano22-47, Ano22-49, Ano22-48, Ano22-50, Ano22-51, Ano22-52, Ano22-53, Ano22-54, Ano22-109, Ano22-110, Ano22-111, Ano22-121, Ano22-122, Ano22-132]. **Cover2** [Ano23-109, Ano24-118, Ano25-78]. **Cover3** [Ano23-110, Ano25-79]. **Cover4** [Ano23-111, Ano25-80]. **Coverage** [BD22].

COVID [And20b, Cha20a, Gib21, Ham20a, Has20a, Hut20, NS20, Per20a, Pes20e, Pes21a, Pre20, SB22a, SZ20, Wal22, YS20, SHD20, Str22b]. **COVID-19** [And20b, Cha20a, Gib21, Ham20a, Has20a, Hut20, NS20, Per20a, Pes20e, Pre20, SZ20, Wal22, YS20, SHD20]. **Cows** [Ack25a, Gol25a]. **CPU** [Kas23, Reg23, Szk21]. **Crack** [Gen25g]. **Cracked** [Abb23]. **crafted** [LCBH20]. **Craig** [Der22b]. **Cranes** [Smi20c]. **cranks** [Ulr20b]. **crashes** [Per22a]. **cravings** [Dol23b]. **Craze** [AZPC22]. **creaky** [Cha20b]. **Cream** [Gen24i]. **Create** [Der21e, Gol22d, Mit20]. **Created** [Gen22]. **Creating** [KK21, Sac20, Zor24a]. **Creation** [Koz23a]. **Creativity** [Bro23c, SM24, Gol22b]. **Creator** [Koz23c]. **Creators** [Per24b]. **Credentials** [Str24b]. **credit** [Per22b]. **credit-card** [Per22b]. **Creepy** [WC23]. **crewed** [Jon24a]. **crisis** [Cha20a]. **Critical** [VA23]. **Critters** [Ros22e]. **Crop** [Gen24e]. **Crop-Spraying** [Gen24e]. **CrossTalk** [Ano20u, Hig20a, Hig20c, Hig20g, Pes20d, Pes20f, Smi20c, Smi20e, Smi20f, Smi20h, Ano20-45, Ano20-94, Hig20j, Ano20-44, Ano20-88, HP20, Hig21, Smi20a, Smi20b, Smi20d, Smi20g, Smi21a]. **Crowdfunded** [Ste21]. **Crown** [Smi24]. **crucial** [Hsu20b]. **Cruise** [Ros23b, Per20l, Wea20]. **Cruz** [Gen24f, Gen25e]. **Cruz-Neira** [Gen25e]. **Crypto** [Ano21-53]. **Cryptocurrency** [Gen23e, Per22b]. **Cryptographer** [Gen25g]. **cryptographic** [Lew20]. **Cryptography** [Cas25e, Rao24]. **Cryptokitties** [Smi22m]. **Crystal** [Mar21e]. **Crystals** [NYI24]. **CubeSats** [Mit20]. **Cummings** [Mar23k, Ros23a]. **Cup** [Sto23]. **Curating** [Rak25a]. **Curbside** [Ulr20a]. **Curious** [Gen25i]. **Currencies** [HS23]. **Current** [BSAH21]. **cut** [Moo20b, Per20h, Per20o, Scu20b]. **Cuts** [Smi22c]. **Cybersecurity** [SSJ+25, Der23c]. **Cybersickness** [Cox25]. **Cycle** [Zdr25, Str21].

D [And20f]. **Daher** [Gen25h]. **Daily** [Smi25b]. **Dancing** [Gen25e, Str25b]. **Dangerous** [VA23]. **Dare** [SHP24a]. **dared** [Ack23d, Cas23d]. **Dark** [Ano21-54, Bog25, Gar25, Moo23b, Sch20c]. **DARPA** [Ack22c]. **dashboard** [Sch23b]. **Data** [And25b, Cal24, Car24, Dum20, Gol25d, Har22, HH24, Hig20b, Koz21a, LH24, Moo24c, Moo25b, Rab22, Rak25c, Rak25d, Wal25b, Zor25b, AS22, Nor20a, Per21b, RS23, Ras20b, SMD20, SG22, ZL20a]. **Data-driven** [Hig20b]. **databases** [Dum20]. **David** [Gol23e, Koz24a]. **Davis** [Ano20-101]. **Day** [Aro24, Bro22b, Tow21, Gen24k]. **Days** [Ano21-55]. **DC** [Fai24a]. **dead** [Red20]. **death** [Der20, SB22a]. **Debris** [And25c]. **debut** [Per20a]. **Decade** [Kon24]. **Decades** [Bro22a, Cas25c, HF22, Der23c, Gol23d, Pat24b, Per21b, Per23, Ros20a, Zor20, Smi23b]. **Decarbonization** [Smi22c, Smi22d]. **Decarbonize** [Cab24, Gol24e, MMP22]. **December** [Ano21-115]. **Decent** [BD22]. **Decide** [SG24]. **decision** [Hut21]. **decision-making** [Hut21]. **Declining** [Smi21k]. **Deco** [Jon22d]. **Decoupling** [RS23]. **Dedicated** [Tow21]. **Deep** [Ack21b, Ano21-113, Ham21, LCBH20, LDO22, MSS21, Sch21a, Sch22c, TGLM21, BMRW20, Jon24a, Moo20e, Pat24a, Per20n, Zor22d, CZG25, Dum20]. **deep-learning** [Per20n]. **deep-ocean** [Zor22d]. **Deep-Sea** [Sch22c]. **deep-space** [BMRW20, Jon24a]. **Deep-speare** [LCBH20]. **Deep-time** [Dum20]. **Deepak** [Gol25e]. **deeper** [Ano20-84, Gal20a]. **deepfakes** [BSG22, Str20a, Str24b]. **DeepMind** [Chi21]. **Deere** [Der23a, Per20n]. **Defective** [Gen25a]. **Defender** [Ulr22]. **Defending** [Cla24, Gol24b]. **Defense**

[Cha25a, Cha21b, Lew23, Per22a]. **Defined** [Kas23, Cas22b, Lee20]. **defunct** [Red20]. **Degl'Innocenti** [Gen24l]. **Delight** [Cas23b]. **Deliver** [BD22, Per20e, Zor20]. **delivered** [Ano20-68, Wal24b]. **delivering** [LDO22]. **Delivers** [Gol24j]. **Delivery** [Cal24, Jon23b, Mar20h, Rak24a, Sch20a]. **Dell** [Smi22l]. **Demand** [AFH22, Rak25b, Rak25c, Str22b, Per20j]. **Demands** [LW24]. **Democracy** [Lau25a]. **demonstrate** [Cly22]. **Demos** [PRR23]. **Dennisa** [Der21d]. **density** [Cha24, Smi22k]. **Departments** [Per20d]. **Depend** [Fit21, Per20h]. **Depression** [Dol25]. **describe** [NS20]. **Described** [Gol25b]. **Describes** [SSB25]. **Desert** [Jon22e]. **deserve** [Hig20h]. **Design** [Ano21-91, Cha21a, Cly24, Kas23, Kin25, MMM24, RC25, Sch25a, Gol22e, Hig20a]. **designed** [Per20l]. **Designer** [Gen23d, Zor24a]. **Designers** [Col25]. **Designing** [Sto23]. **Designs** [Gen25g, GP22, Smi22e]. **Despite** [Fun20, Rab22, Rak25c, Zee25]. **destroy** [And20h]. **Destroyed** [Mar23j, Moo20c]. **destructiveness** [Smi22i]. **Detailed** [Sch24b]. **Detect** [Sch22a, Sch23a, Sch24a, WB21]. **Detecting** [Mar23j]. **Detection** [Baj22]. **Detector** [Cas24f, Goo25, Jon23i, Kuh24, Wal20b]. **Detects** [Sch25a]. **Determine** [Gol25f]. **Deterrence** [Baj22]. **Develop** [Gol25c, Per20e]. **developers** [Per20j, Wea20]. **Development** [Ash23, Hsu20a, Zdr25, Zor20]. **Developments** [JPWB21, MJH+21, SAS+21, CKG+21]. **Device** [Gen24m, Gol22c, KK21, Mar25c, Moo22c]. **devices** [Ano21-91, Arm20, MW20]. **Diabetes** [CZ25]. **diagnostic** [YS20]. **Dialogue** [CD21]. **Diamonds** [Gen25a]. **Did** [Bro23c]. **Didn't** [Bro23c, Cas20g]. **Dies** [Rak25b]. **difference** [Pat24b].

Different [Dol23b, Ack23d, Cas23d]. **dig** [Gal20a]. **Digital** [Bow21, Cas24b, Cas25d, Der23d, Dum20, Gol25g, HS23, Per25, Rak25a, Smi23c, Smi25a, WC23, Koz23b, Mar20a, Str24b, Zel20]. **dilemma** [Hsu20b, Bro22d]. **Dim** [SS25]. **dimension** [Per20c]. **Diminishing** [TGLM21]. **dioxide** [Ano20-100]. **direct** [Gal21b]. **direct-air** [Gal21b]. **direction** [RK22]. **disabilities** [Sac20]. **Disability** [Ano21-121]. **Disappear** [Poo24b, Per21b]. **disappeared** [Fru20]. **disaster** [Cha20a]. **Disastrously** [Cho21]. **Discounts** [Ano21-117, Ano21-118, Ano21-119, Ano20-71, Ano21-120, Ano22-123]. **Discover** [Ack25b]. **discovery** [Scu20b]. **discrimination** [Per20i]. **Dish** [Cas25a, Sch24a]. **disinfected** [Ano20-68]. **disinformation** [Str24b]. **Disks** [Ake23]. **Disney** [Gen23b]. **Disorders** [Dol23a]. **Disparate** [Der21e]. **Display** [Mie24, Som21, ZL20b, Cas20e, Cas22f, Mie22]. **Displays** [Gan24, Pal22, Per21a]. **Disposing** [And25c]. **Disrupt** [FK21]. **disruptors** [Bro22d]. **disrupts** [Ham20a]. **Distance** [Jaf22]. **Distanced** [Ano21-142]. **distances** [Jaf22]. **Distant** [Sch23a]. **distillery** [Str23]. **Distinguish** [Pep25, LCBH20]. **distribute** [Gib21]. **Divan** [Gol25e]. **Dive** [Cal22]. **divide** [Koz23b]. **divided** [Koz21b]. **Divya** [Der21g]. **DIY** [Bor24, Cas20d, Cas22a, Cas25a, Cop25, Gol23e, Lew23, Pau22, Ros22b, Sch20b, Sch22d, Sch25a, SS25, Sla21, Tem20, Wat24]. **DNA** [Abb23, BF24, Car24]. **DNS** [Ras20a]. **Do** [Gar25, GK24, PRR23, Pow24, SHP24a, SG24, Cas23a, Gal20b, Wal20a]. **Do-or-Die** [PRR23]. **Docker** [Cas21c]. **Dodging** [And25c]. **Does** [Pre20]. **Doesn't** [Hus24]. **dog** [GA20]. **Doing** [RC25]. **Dollar** [Per24b]. **Dollars** [Cas25b]. **Domestic** [GK24]. **dominance** [Ulr20c]. **Dominant** [Smi25a]. **Don** [Zor24b]. **Done**

[BSAH21, Per20h]. **Don't** [Gen24a, Smi21d, Smi21e, Smi21f, Smi21b, Smi21c, Smi21g, Smi21h, Smi21i, Smi21j, Smi21k, Smi22a, Smi22b, Smi22c, Smi22e, Smi22j, Smi24, Zac25, BS22, Smi22i]. **Doom** [Ano21-62]. **door** [Lew20]. **Doorstep** [RZ21]. **doses** [Gib21]. **dot** [Scu20a]. **Dots** [Pal22, PK20]. **Double** [CP21, Moo22b, Sch20c]. **double-backup** [Sch20c]. **Doubles** [Gol24b]. **Down** [Gol24b, Gol24i, Rak25b, Som21, Rae20, Fai23b]. **Downed** [Sch22b]. **Downs** [Moo21]. **Doyen** [Gol24c]. **drag** [Per20m]. **Dragon** [Cha21b]. **Dragonfly** [Cha21b]. **Draw** [SSJ+25]. **Dream** [Hoc22, Smi21f]. **Dreamed** [Gen25e]. **Dressed** [CP21]. **drills** [Gal20a]. **drinking** [Smi20e]. **Drive** [Str22b, Ack21a, Ano20-69]. **driven** [Hig20b]. **driver** [Har22, Wea20]. **driverless** [Per20l]. **Drivers** [Cal24]. **Drives** [Ros23b]. **Driving** [Mar23k, WPBS23, And20g, LG20, Pan20, Smi23a]. **Drone** [Kol25, Tei23, DM20, Pot20a, Ros22d]. **Drone-Based** [Tei23]. **Drones** [Ack23c, And25b, Bau24, Cla24, Gen24e, Gol24b, Ros23b, DM20, Gen24h, Sch20a]. **Dropout** [Bow21]. **Dropped** [Cal24]. **Drops** [Per22c]. **Drove** [Moo23a]. **drug** [Scu20b]. **Dual** [Kas23]. **Dual-CPU** [Kas23]. **Ducking** [And25c]. **Dug** [Cal24]. **Dumpster** [Cal22]. **Duo** [SH22a]. **Duolingo** [BBS23]. **during** [Arm20, Cha20a, NS20]. **Duty** [Der23a]. **DVDs** [Nor20a]. **Dynamic** [Ack25b, SH22a]. **Dynamics** [Ack22b].

E-Bike [Sch21d]. **E-Paper** [HF22]. **Each** [Gol23g]. **Eagles** [Wal25a]. **Ear** [Ack25a, Lew23]. **Early** [PRR23, Koz20c]. **Earn** [Ano20-93]. **ears** [Hoc22]. **Earth** [AF23, Bar24, ROK24, BMRW20, And25c, Ano20-85, Ano24-145, Dum20, WB21, Zor22b]. **Earth-like** [WB21]. **Earthquake** [Mar23j]. **Earthquakes** [Mar23j, Sch23a, Sch25a]. **Easier** [Cas21c, Coo21, Gen24k]. **Easy** [Sch21d, Smi21n, Tho21a, Cas20d]. **Eat** [Smi22h]. **Eating** [Smi22h]. **Eavesdropping** [Ama25, Dut22, Hoc22]. **Echo** [Has20b]. **economic** [Fun20]. **Economics** [Ros23b]. **Economy** [Sch23b]. **ED** [Wea20]. **edge** [Hig20d]. **Editor** [Zor24b]. **Editorial** [Zor23b]. **Education** [Ano25-102, Bai25]. **Educational** [Str25a]. **Edwin** [Zor22c]. **EE** [Der23b]. **Effect** [Zor22c]. **effective** [Hsu20b]. **efficiency** [Sch21a]. **Efficient** [Cha21b, PSD22]. **eight** [Ack24d]. **Eighth** [Cas21d]. **Eileen** [Der23b]. **Either** [Cas23b, Cha23]. **Election** [Str24b]. **Electric** [Ano22-56, MMP22, Mar21k, Mar22i, Smi21e, Smi21j, Ulr21, Ulr22, Wal21, And20c, Ano20r, Ano20-69, Cri20, Gol22f, JAR24, Ulr20b, Ulr20c]. **electric-vehicle** [Gol22f]. **electrical** [Ano20-86]. **Electricity** [AFH22, Ano20-45, Gol25c, Mar21i, Smi22a, Smi22j, Zee25, Fai23b, Smi22g]. **Electrification** [Mar25g]. **Electrified** [GP22]. **Electrify** [Zac25]. **Electrifying** [Der23a, Sch21d]. **Electrifyingly** [Sch21d]. **electrodes** [Dut22, Wal24b]. **Electrolysis** [MD23]. **electrolytes** [And20c]. **Electromechanical** [Pau21, TB21]. **Electronic** [Ama25, Cha25b, CP21, Mar24a]. **Electronically** [Sch24b]. **Electronics** [Bai25, SS25, AMK+20, Som21]. **Electrons** [Boy24]. **Electrostatic** [Mar23c]. **Eliminates** [BBFS22]. **Elon** [Smi21f]. **Else** [Lev21]. **elusive** [Cly22, Luc20a]. **embed** [Cas20d]. **embedded** [Ano20-90]. **Embeds** [Gen24m]. **Embracing** [Has20a]. **emerged** [Zor22a]. **Emergency** [Ano20-46, Ros22c]. **Emerges** [Moo23b]. **Emissions** [Smi22c, Gal21a, Gal21b]. **emotional** [CHM21]. **emotions** [HVW20]. **EMP** [Wal24a]. **EMP-Proof** [Wal24a]. **employer** [Ano20-95]. **Empower** [Ack23b]. **emulate** [BBS23]. **Emulated** [Reg23]. **Enable**

[Gan24, NYI24]. **Enabled** [Pau22]. **Enabling** [Ong20]. **Encrypted** [Moo24c, Ras20a]. **Encryption** [Cop25, Gen25g, Pau21, Koz20c, Moo24c]. **End** [Pes21a, Per20a, Smi22d]. **ended** [Ros20a]. **Ending** [Has20a]. **Energiewende** [Smi20d]. **Energy** [BSAH21, Cly24, Gar20, Gen25h, GP22, KH24, Moo21, Mos25b, SC23, Smi22b, Smi22f, Smi25b, Wal25b, Zee25, Cha24, Fai23c, Ham21, Jaf22, MMP22, Smi22k, Cly22]. **enforcer** [Zor23a]. **Engine** [Col25]. **Engineer** [Der21g, Gen24a, Gen24e, Gen24d, Gen24j, Gen24l, Gen25h, Gol23h, Kim22, Lau25a, Ano20-47, CD21, Gen23a]. **Engineered** [And20b, Cas20h]. **Engineering** [Ano25-102, Ash23, Bai25, Der21d, Gol25i, HPK22, JPWB21, Kol25, MJH$^+$21, NS20, Per24b, SAS$^+$21, Ano20-86, Cas20b, CKG$^+$21, CFPP22, Koz24b]. **Engineers** [FK21, Gar25, Gen25i, Gol22d, Gol25c, Gol25j, Gol25i, Mos25b, Per22c, Gen23c, NS20]. **engines** [Gal21a]. **England** [Jon23d]. **Enhanced** [Gol21]. **Enhancing** [Ack22a]. **Enough** [MMP22, Cha24, Gal21b, Gib21]. **Ensure** [JKW25, Der22f]. **ensures** [Der21d]. **Entangled** [Ros22e]. **Enters** [Cas25d, WPBS23]. **enthralls** [Smi23b]. **entire** [Sha23]. **entrepreneur** [Ano21a, Goo23a]. **Entry** [Dum23]. **Environment** [Cha21a]. **Environmental** [Cab24]. **environments** [BMRW20]. **Envoy** [Mar22k]. **Equals** [Ake23]. **Equiano** [Koz21a]. **Equipment** [Hec20, SS25]. **equipped** [Sch20b]. **Era** [Cas22g, Shi22, Smi22a, Wal21, Bro22b, Sch22e]. **Eraser** [Mar25g]. **Erickson** [Gen24e]. **Erika** [Gen24f]. **Error** [BS22]. **Escape** [Bor24, ROK24]. **Escapes** [GPUB25]. **Essential** [Cor21a, Mos25b, Ano20-68]. **Estonia** [Str25a]. **Ethical** [Ros25]. **Ethics** [Ros25]. **Eugene** [Der23c]. **Europa** [Cha21a]. **Europe** [Dum23, Fai24a, Ros22c, Ros22d, Zee25].

EUV [Boy24, SSB25, Van23]. **EV** [And20c, Cha23, Col25, Gen24g, GH23, Gol23h, RC25, Smi23a]. **evangelizing** [Per23]. **Even** [Cas23c, Gen25g, Per20g, Sch23a, Szk21, BMRW20]. **Event** [Lau24b, Ano20t, Bou20]. **Ever** [NYI24, Dut22, Pri21]. **Every** [Har22, Smi25b, Smi22d]. **Everyone** [Ack25a]. **Everything** [Gol22c, Gol25h, Hig20b, Hig20d, Hig20e, Hig20f, Hig20h, Hig20i, HP21a, HP21b, HP21e, HP21f, HP21c, HP21d]. **Everywhere** [Gol23a, Lau25b, Per21c]. **Evolution** [Cha21b, Cas22e, Fun20]. **Evolve** [Wal22]. **Evolved** [Smi22h]. **EVs** [Cha24, Der22e, Dum22, Gol22f, MMP22, ROK24, Ulr20a]. **eVTOL** [AZPC22, Zor23a, Zor23c]. **eVTOLs** [ACDG21, NG23]. **Exascale** [Dum23, And20i, Sch22e]. **exceed** [Fai23b]. **Exceptional** [Pau21]. **Excess** [SB22a]. **Exclusive** [Ano20-71, Cop25]. **Existed** [Ack25b]. **exoplanet** [WB21]. **Exoskeleton** [Str25b, Ack20]. **Exotic** [ROK24]. **Expect** [Fun20]. **expectations** [And20g, Per20d]. **Expendable** [Col25]. **Experience** [Der22d, Gol21]. **experiences** [Der20]. **Experimental** [ROK24]. **experiments** [Cas20g, Ham20a]. **Expert** [Der23d, Mar23k, Rak25b, Ros25]. **Experts** [Gal21b]. **Exploding** [Jag22, SSB25]. **Explore** [Gol25j]. **Explorers** [Der22g]. **Explores** [HPK22]. **expressions** [HVW20]. **extension** [Red20]. **Extra** [FBMI23]. **Extreme** [Gol24h, Smi22e]. **Extremely** [ACDG21]. **Eye** [Ano24-144, Zor22e, Sch20d]. **Eyeballs** [Gen23e]. **Eyewear** [Ano21-114]. **EZ** [Mie22].

Fab [Ano22-108, Aro24, Moo24e]. **Fabs** [Pat23a]. **Face** [Bog25]. **Facebook** [HS23, Str20a]. **faced** [BMRW20]. **Facial** [Abb23, HVW20]. **Factor** [Gen23d]. **facts**

[Ano20u]. **faculty** [Ano20-86]. **fades** [Pes21a]. **Fail** [Cho21, Cha20b, Raf20b]. **Failed** [Kol25, HS23, Pat24b]. **Fair** [McC20]. **Fake** [Fra21]. **Fall** [Mar25f]. **fallback** [Raf20b]. **False** [Eis23]. **famous** [Bou20]. **Fans** [Gal21b]. **fantasy** [Ano20-51]. **Far** [Fai23a, Gol25j, Ano20-49, PSD22]. **Faraway** [Sch25a]. **Farewell** [Mar24e, Zor23b]. **Farmers** [Gen24e, Gen25d]. **Farms** [Pat24a, Usk21]. **fascinating** [Gol22d]. **Fast** [Cas25c, Cha21b, Cly24, Gol25h, WPBS23, YS20, Ano20-49, Ano20-79, Smi22j]. **Faster** [Tow21, Ano21-91, CHM21, Gal20a, Per20e, Ros21]. **faster-than-sound** [Ros21]. **father** [Per20c]. **Feasibility** [Gol24a]. **Features** [Gol23g]. **Feedback** [Gan24]. **Feeding** [Ack25a]. **Feel** [Ack22a]. **Feels** [CHM21]. **Fell** [Gen25f, Ros22a]. **Ferrite** [Cas22g]. **Ferrite-Core** [Cas22g]. **fetch** [GA20]. **Few** [Cas25b, LCBH20, ZL20b]. **fewer** [Sca22]. **Fi** [Gol24j, Koz24d, Lew23, Mie24, Cas22a, Gol24a, Hig20j, Zel20]. **Fiber** [Lau25b]. **Fiber-Optic** [Lau25b]. **fibers** [Hec20]. **Fiction** [Der21g, Jon22a, Zim21]. **Field** [Mos25a]. **fieldwork** [Ham20a]. **Fight** [Gol24i, Ras20a]. **Fighter** [Ros23a]. **fighting** [Der23c]. **Figure** [Jon22a]. **Figured** [Pau21]. **figures** [Mar20j]. **File** [PSD22]. **film** [Zel20]. **filter** [Ros20b]. **Final** [Ano20-48]. **finalist** [Ano20-100]. **Finally** [Cha24, Gar25, Gob23, GK24, Zor23c, Gol23d, Zor20, Zor22d]. **Find** [Gen25h, Gol25d, MD23, Pow24, Pri21]. **Finding** [Abb23, Gen25a, Zor20]. **Finds** [Gen23d]. **FinFets** [Per20c]. **Finish** [Gen24d]. **Finished** [Aro24]. **Fires** [Fit21]. **First** [Aro24, Gen24b, GPUB25, Goo25, Koz21b, Mar22l, Mar24g, Mar25c, McD25, Per24b, Ros22a, Ste21, SG22, Zor22a, Zor24a, And20b, And20e, Fru20, Jon24a, Mar20c, Mar20d, Pot20a, Sch22e, Zor23c]. **first-person** [And20e]. **Firsthand** [Mar23k]. **Fishing** [Her20, SJY25]. **Fission** [Jon23d, And20d]. **Fit** [Smi22l]. **Fitbit** [Per24b]. **Fitness** [Per24b]. **fits** [Mar20f].

five [Per23, Scu20b]. **Fix** [Smi21n, Str24a]. **Fixed** [Smi22l]. **Fizzling** [Col25]. **Flags** [Ros25]. **Flares** [Sch22a]. **Fledgling** [Lau25a]. **Fleet** [Der22e, Raf20b]. **flesh** [SMD20]. **Flexible** [Der21e, Kir25]. **flier** [DM20]. **fliers** [Zor23c]. **flies** [Rae20]. **Flight** [Jon23j, Smi21e, Smi23b, Ano20-89, CD21, Fou22, Ros21]. **Flights** [Smi21e, Koz23d]. **Flipper** [Cas23b]. **Floats** [Mie24]. **floor** [Sch22c]. **Floppy** [Ake23]. **flourished** [Hoc22]. **Flow** [Cha24]. **flu** [SB22a]. **fluctuations** [Koz20c]. **flurry** [Pes21a]. **Flux** [GP22]. **Fly** [Cha21b, JAR24, Zor25a, Pot20a]. **flyer** [Pot20b]. **Flying** [Ano20-49, Ros20a, Ros22d, Zor23a]. **focus** [And20g]. **focuses** [Gol22d]. **fold** [ZL20b]. **followed** [Smi22j]. **Following** [Gol24d]. **Food** [Smi22f]. **Foosball** [Coh22]. **Football** [Mos25a]. **Footprint** [Smi22b]. **Forced** [Gen25e]. **Ford** [Col25]. **foreshadows** [Fai24a]. **foresight** [SZ20]. **Forest** [Fit21, PN20]. **forestry** [Ano20f]. **Forgetful** [Cho21]. **Forgotten** [Aro24, Mul24, Shi22, Smi22g]. **fork** [Per22a]. **form** [And20e]. **Former** [Ros23a, Zor24b, Gen23c]. **Formerly** [Pal22]. **Forming** [KH24]. **Formula** [Ano20-51]. **Forward** [Ano23-134, Bro23b, Cor21b, Goo23b, Goo25, MMM24, Mar20a, Mar20b, Mar20c, Mar20f, Mar20g, Mar20i, Mar21d, Mar21e, Mar21f, Mar21h, Mar21k, Mar21i, Mar21j, Mar21c, Mar21g, Mar22i, Mar22j, Mar22l, Mar22k, Mar22a, Mar22b, Mar22c, Mar22d, Mar22e, Mar22f, Mar22g, Mar22h, Mar23b, Mar23d, Mar23e, Mar23f, Mar23g, Mar23h, Mar23i, Mar24b, Mar24f, Mar24d, Mar24g, Mar24e, Mar24h, Mar24c, Mar24i, Mar24j, Mar25a, Mar25c, Mar25e, Mar25d, Mar25f, Mar25b, Mar25g, Bre20]. **Forword** [Mar24k]. **Fostered** [Gol24g]. **Fought** [Cal24]. **Found** [SH22b]. **Foundation** [Ano20-70, Ano21-31]. **Founder** [Ack24a, McD25]. **foundry**

[Rak24a]. **FPGA** [Cas20f]. **Fractional** [AMK+20]. **Fraden** [Koz24b]. **Frankel** [Koz24a]. **Free** [Cas25b, Tho21a, Per20f]. **freight** [DM20]. **frequency** [Bra21]. **Fried** [Cas23a]. **friendly** [Fru20, Pat22]. **Friends** [Mar24e]. **Front** [Ano20-53, Ano20-54, Ano20-55, Ano20-56, Ano20-57, Ano20-58, Ano20-59, Ano21-92, Ano21-93, Ano21-96, Ano21-103, Ano22-49, Ano22-48, Ano22-51, Ano22-112, Ano22-113, Ano22-114, Ano22-115, Ano22-116, Ano22-117, Ano22-118, Ano22-119, Ano22-120, Ano23-112, Ano23-113, Ano23-114, Ano23-115, Ano23-116, Ano23-117, Ano23-118, Ano23-119, Ano23-120, Ano23-121, Ano23-122, Ano24-119, Ano24-120, Ano24-121, Ano24-122, Ano24-123, Ano24-124, Ano24-125, Ano24-126, Ano24-127, Ano24-128, Ano24-129, Ano24-130, Ano25-81, Ano25-82, Ano25-83, Ano25-84, Ano25-85, Ano25-86, Ano25-87, Ano25-88, Ano25-89, Ano25-90, Ano20-76, Ano20-77, Ano20-52, Ano20-60, Ano20-61, Ano20-62, Ano20-63, Ano20-64, Ano20-65, Ano21-94, Ano21-95, Ano21-97, Ano21-98, Ano21-99, Ano21-100, Ano21-101, Ano21-102, Ano21-104, Ano21-111, Ano21-105, Ano21-106, Ano21-107, Ano21-108, Ano21-109, Ano21-110, Ano22-109, Ano22-110, Ano22-111, Ano22-121]. **frontier** [Som21, Sch22e]. **Frontiers** [Kon24]. **Fuel** [Sch23b, Smi22f, Svr23, Zor25a, Gal21a, Smi22k]. **Fuel-Cell** [Zor25a]. **Fuel-Economy** [Sch23b]. **Fueled** [Per25]. **fuelless** [Ano20-49]. **full** [Ano20-70]. **Fully** [Moo24c, Per20l, Smi23a]. **Fun** [Gen23d, Mar20e]. **Functional** [Sca22]. **Funded** [Pat23a]. **Fureka** [Lau24a]. **Fusion** [BBFS22, Cly22, Cly24, Der21e, Gol23b, Jon22h, Kon24, BCM+19, Cly20, Cly23]. **Fuss** [Kuh24]. **Future** [Ack22c, Ack23a, Ano21-122, Boy24, Gol24d, Ham21, Moo25a, Str21, Tei23, Zor25b, And20c, And20d, Ano20-72, Ano20-73, Ano22-130, Luc20a, MW20, Moo20b, Ulr20b].

Gadget [Wal21]. **Gadgeteering** [Ano21-112]. **gains** [Per20i]. **Gakutensoku** [Fru20]. **Galaksija** [Ack23d, Cas23d]. **Galaxy** [Pow24]. **Gallium** [Jes21]. **Game** [Pes21a, Reg23, Wea20, And20e, Smi23b, ZL20a, Smi24]. **Games** [Gen23d]. **gaming** [And20e, Pes21a]. **Gamma** [Ros22b, Sch22a]. **Gamma-Ray** [Ros22b, Sch22a]. **Ganguli** [Der21h]. **garage** [Lew20]. **Garwin** [Zor24a]. **Gas** [Jon22c, Gal21b]. **gateways** [Gol23c]. **gauge** [Sch23b]. **GE** [Has20b, JAR24]. **gear** [And20c]. **gears** [Jon24a]. **Geek** [Cas20a, Cas20b]. **Geely** [Smi23a]. **Gen** [Dol25, Pau22]. **General** [Der21h]. **Generate** [VA23]. **Generated** [Koz23a]. **generating** [Fai23b]. **Generation** [Gol25c, Fai24a, Koz24d]. **Generations** [Sto23]. **Generative** [Bro23c, SHP24a]. **Generator** [Svr23]. **Generators** [Mar23c]. **Geopolitics** [Gol25f]. **Geostationary** [Koz20a]. **geothermal** [Gal20a]. **Germany** [Dum23]. **Germicidal** [And20h]. **gestures** [Wea20]. **Get** [HS23, Pep25, BS22, Fai23c, Gol23a, Gol23d, Hut20, Moo25a, Per20f, RK22]. **Gets** [Dol23a, Rab22, Ulr22, Hig20i, Per20h]. **Getting** [Ash23, LDO22]. **Ghost** [Koz20c, Cas23a]. **Giant** [Mos25a, Zor22b, Fru20, Gal20b, HS23]. **giants** [Smi23a]. **GIFs** [Per21b]. **Gig** [Gen24i, Cal24]. **Gill** [Ack22a]. **Give** [Bro23c, FBMI23, KH24, Red20, RHBM22, WAC+20]. **Gives** [Coo21]. **Gizmo** [SP21a, SP21b, SP21c, SB22b, SB22c, Smi22l]. **Glass** [Smi22b, Nor20a, HVW20]. **Glasses** [Per21a]. **Gliders** [Jon23e]. **Glitch** [Ros22b]. **Global** [Ano21-115, Fai23a, Gib25, Mos25b, Ros25, Fai24a, Raf20b, RG20]. **Globalism** [Bro22b]. **Gloom** [Ano21-62]. **Glucose** [KK21]. **GM** [Ulr20b]. **Go** [Cas24b, Gol25j, Wal21, Zel20, LG20, Ulr20a].

Goal [Lau24a, Cly22, Koz21b, Kum21]. **Godfather** [Kim22]. **Goes** [Ack21b, MD23, Smi21k, SJY25]. **GoFly** [Pot20b]. **Going** [Koz23c, McD25, Ros20a, SSB25, Wal24b, Kum21]. **Gone** [Jon23k, BMRW20]. **Gooaall** [Coh22]. **Good** [Ano20-66, Mar23j]. **goodbye** [Hig20j]. **Google** [HVW20, Has20b, Kon24, Koz21a]. **government** [Cha20a, Raf20b]. **GPS** [And25a, Har21, Raf20b]. **GPU** [LW24]. **Gracey** [Gen23c]. **Grade** [Pat23b]. **Grain** [Smi22f, Usk21]. **Graphene** [Kir25]. **graphics** [Cas20e]. **Grapples** [Gol23h, Fai20b]. **Grappling** [Gol25i, Sch21e]. **Gravity** [Moo21]. **Great** [Ano21-113, Gen25i, KP24, Koz23c, Per21c, Smi21l, BBS23, Smi20a]. **Greater** [Str25b]. **greatest** [Cro20]. **Greedy** [Cha23]. **Green** [Fai23b, Gen25d, Zee25, Str23, Pat22]. **Green-Energy** [Zee25]. **greener** [Hus24]. **greenhouse** [Gal21b]. **Greening** [Gol24e]. **Greta** [Gen24g]. **Grid** [AFH22, Dum22, Eis23, Fai21, Gol22f, Gol25e, KH24, Mos25b, Poo24a, Zac25, Fai23c, Fai24a, Lee20, Moo21, Pat20]. **Grid-Forming** [KH24]. **grids** [Ano20-66]. **Grit** [Abb23]. **Groceries** [RZ21]. **Groove** [LDO22]. **Gropper** [Ano21a]. **Gross** [Der20]. **Grosser** [Der22a]. **Groundbreaking** [HPK22]. **Grounding** [Jon23g]. **Group** [Ano21-121]. **grow** [Fai20a]. **Growing** [Rak25c]. **grown** [Gui20]. **Growth** [Bro22c, Pat24a, Smi21j, Smi21k, Zac25, Ano20-44, Per20j]. **guard** [Arm20]. **guardian** [Per20k]. **Guide** [Ano21-144, Ano21-145, Ano22-131, Ano22-132, CFPP22, RZ21, Ano20-103, Ano20-104, Gol23c]. **Guided** [Jon23e, Smi23c]. **Gun** [Ros23b]. **Guy** [Mar25f, Ano20-81].

H [Der23c]. **Habitat** [CZG25]. **Hack** [Cox25, Zel20, AF23, Lew20, RG20]. **hack-proof** [Lew20]. **Hackable** [Cas24e]. **Hacker** [Cas23b]. **Hacking** [CZ25]. **hacks** [Hoc22]. **Hairspray** [Pep25]. **Half** [Lau25b]. **Hall** [Zor22c]. **Ham** [Cas24e, Gol24i]. **HamMessenger** [Tho21a]. **Hand** [Cas25a, Coo21, You22]. **Handful** [PRR23]. **Handheld** [Cas24e, Wal21]. **Handie** [Bre20]. **Handie-Talkie** [Bre20]. **Handle** [Ack25a, Moo20a]. **Hands** [Cas20d, Cas20e, Cas20g, Cas20f, Cas20h, Cas21a, Cas21b, Cas22g, Cas24c, Ehn23, Gob23, Gol23e, Laz21, Lew20, Mar24l, Pom21, Sar20, Sch20b, Sch20c, Sch20d, Sch21c, Tem20, You22, Zel20, Pre20]. **Hands-On** [Gol23e]. **Happen** [Har21]. **Happens** [SH22b]. **Happier** [Ack25a, AS22]. **hard** [Hut21, Sca22, VH20]. **Harder** [Cha23]. **Hardest** [Chi21]. **Hardware** [Bai25, Gen24b, Gen25g, Gol25c, Per24b, Ros22a, Sch23c, Smi21l, LA22, Per22b]. **Hardy** [Ros22e]. **harming** [And20h]. **harnesses** [Koz20c]. **Harsh** [Rab22]. **Harvard** [Der23d]. **Harvest** [Jon22e]. **Harvesting** [Usk21]. **hasten** [JJS22]. **Hate** [Cas23b]. **Having** [Gol23b]. **head** [Per21a]. **head-up** [Per21a]. **headphones** [Hsu20c]. **healing** [Ano20-67]. **Health** [Cha25b, SHP24a, Str20b]. **healthcare** [Ano20-96, Ano20-97]. **heap** [Smi22g]. **Hear** [Bra21, Koz20b, Tho21b]. **Heard** [Ama25, JKW25]. **Hearing** [Mar22i, Mos22, Sch20b]. **Heat** [MZR21]. **Heating** [Ano23-137]. **Heavens** [Sch23c, Sch24b]. **Heavy** [Der23a, Ack22b]. **Heavy-Duty** [Der23a]. **Heights** [Jon23b, RK22, Gol24g]. **Helena** [Koz21a]. **helicopter** [Pot20a]. **He'll** [Zor25a, Cha21a]. **Hellish** [MZR21]. **Hello** [AG20]. **Help** [Ack22a, Bau24, CPBZ21, Gol22a, Jon22b, Gal20a, Pre20, SHD20]. **Helped** [Ama25, Bro23c, Kim22, Ros22a, Fai23c, Per22a]. **helpful** [CHM21]. **Helping** [Gen25h, Koz20b]. **Helps** [Gol22b, Bar20, Der22c, HVW20]. **Henry**

[Per25]. **Her** [Ack24a, Der22d, Der22g, Der23b, Gen24g, Cas22d, Gen25e]. **Here** [Ano21-144, Ano22-131, Ano22-132, Bou20, Car24, Gol25e, GK24, Per20l, Sch20b, Ano20-103, Ano20-104, Ano21-145, YS20, Hut20, Jag22]. **here-and-now** [YS20]. **Hey** [Gol25e]. **Hi** [Cas22a, Gol24j, Lew23]. **Hi-Fi** [Gol24j, Lew23, Cas22a]. **Hidden** [GH23, Smi25b, TB21, Mar20j]. **Hide** [Baj24, LA22]. **Hide-and-Seek** [Baj24]. **High** [Ano21-114, Coo22, Fai24a, Gan24, Van23, You22, And20c, Cly23, Has20a, Has20b, YS20, Zor23a]. **high-flying** [Zor23a]. **High-Numerical-Aperture** [Van23]. **High-Quality** [Gan24, Has20b]. **High-Resolution** [Coo22]. **High-Tech** [Ano21-114, You22, Has20a, YS20]. **high-temperature** [Cly23]. **High-Voltage** [Fai24a]. **Highway** [Mar23k]. **hiring** [Hsu20a]. **Historic** [Gol24f]. **History** [Ack24b, Eis23, Jon23a, Mar21e, Mar23b, Mul24, Cro20, Scu20a]. **hitch** [Pot20a]. **Hits** [Gen24b, Nor20b]. **Hoard** [Har22]. **Hoards** [GH23]. **Hobbling** [Cha25b]. **hockey** [Zor23a]. **Hold** [Pow24]. **Hole** [Gol25g, Bou20]. **Holistic** [Zdr25]. **Home** [Ack23d, Ano23-137, Bor24, Cas21c, Cas23d, Jon23b, MZR21, Mar25e, Szk21, Wat24, AG20, Has20b, Per20g, Sar20, Sch20c]. **home-automation** [Has20b]. **Home-Brew** [Szk21]. **Home-Brewed** [Ack23d, Cas23d]. **Homemade** [Sch22b]. **homes** [Ano20-96, Ano20-97]. **homomorphic** [Moo24c]. **Hope** [Dol25]. **Hopes** [Per20d, Rak24a]. **Horizon** [Zim21, Bou20]. **Horse** [Moo23b]. **hospital** [Ano20-68]. **Host** [Dum23, Lau24b]. **Hot** [Cas21d, Szk21, Per20j]. **hour** [Ack22b]. **Hours** [Zor25b]. **HP** [Cas25d]. **Hsiang** [Der22c]. **Hu** [Per20c]. **Hubble** [Pot24]. **Huge** [Coo21, Gol24d, Moo20e]. **Human** [Ack23a, Ack23c, Bro21, Gol25a, OSK25, Smi22h, BBS23]. **Humanity** [Ack23b, Gib21]. **Humanoid** [Ack24d, GK24]. **Humans** [Ack21b, Ack25a, CZG25, Gol22b, Gol23g, And20h, Gol22a]. **Hummer** [Smi22e]. **Humming** [Gen24j]. **Humphreys** [And25a]. **Hundreds** [Usk21, Dum20]. **Hunt** [Pow24, Sch22b]. **Hunts** [GH23]. **Hurdles** [Pat20]. **Hybrid** [Gen24d, JAR24, Moo24d]. **hybrid-electric** [JAR24]. **Hybrids** [MCG24]. **Hydrogen** [Fai23b, Jon25, MD23, Zor24a, Zor25a, Str23]. **Hydrogen-Powered** [Jon25]. **Hydropower** [Smi22g]. **hype** [Fun20, Hig20i]. **Hyper** [Smi21f]. **Hyperloop** [Smi21f]. **Hypersonic** [Ros20a].

IBM [Aro24, MCG24, Ros25]. **IBM's** [Cho23]. **Ice** [Rab22, Tei23, Gen24i]. **Iconic** [Mar23c]. **Icy** [Cha21a]. **ID** [Gen23e]. **Idea** [Per24b, SS25]. **ideal** [Zor20]. **ideas** [Cly20]. **Identifies** [Koz23a]. **identities** [RS23]. **identity** [Per20b]. **IEEE** [Ano20-70, Ano20-71, Ano21-31, Ano21-115, Ano21-117, Ano21-118, Ano21-120, Ano21-119, Ano21-121, Ano21-116, Ano22-122, Ano22-123, Per22c, Ano21-57, Ano21-58, Ano21-59, Ano22-59, Gol21, HPK22, SM24, Zor23b, Zor24b]. **If** [BS22, Gar25, Mar20f, Sch24c, Sha23, Pou22, Raf20b]. **II** [Hoc22]. **image** [Bou20, PK20]. **Images** [Koz23a, Sch23c, Sch24b]. **Imagination** [Gol24a]. **Imagine** [Bro23c, CD21]. **Imaging** [Jag22]. **IMEC** [HH24]. **immersive** [WAC$^+$20]. **Immortality** [Mar23c]. **Impacts** [Cab24]. **Implant** [Wal24b, Dut22]. **Implants** [Bla25, Bou21, Dol25, SH22b]. **important** [Ano22-130]. **impossible** [VH20]. **Impossibly** [Smi22c]. **Impractical** [You22]. **impressive** [Smi22i]. **Improve** [Per24a, Cho20, Gol22b]. **Improvement** [TGLM21]. **Improving** [Bai25, Per23]. **included** [Hig20f]. **Income** [Ano21-121, Per22c]. **increases** [Per20i]. **increasingly** [Lau23b, SB22a]. **Indeed** [Smi21d]. **Indefinitely** [Pes21b]. **Indelible**

[Zor24b]. **Independence** [Ack22a, Gen25h]. **Indeterminate** [Ano20-44]. **India** [Fai20b, Gen25d, JJS22, Jon23f]. **Indoor** [Smi21n]. **induction** [Sch20b]. **Industrial** [Gen23a]. **Industry** [Gen24g, Gol25b, Jag22, Kim22, Moo24a, Pat24a, WC23, And20g, Koz21b]. **Inefficient** [Cha25b]. **inertial** [Ano21-134, Per21a]. **Inexpensive** [Kuh24, Rab22]. **Inflammation** [CZ25]. **Inflation** [Per22c]. **Inflation-Adjusted** [Per22c]. **Information** [Gol25g, Der20]. **Infrastructure** [Fit21, Gen24j, Smi25b, Gol22c]. **Ingenious** [Mul24, ROK24]. **ingenuity** [Luc20b]. **inhaler** [And20b]. **Injury** [Gen25e]. **Ink** [HF22]. **Inkjet** [Mar25c]. **Inkjets** [BF24]. **Innovate** [Ano20-72, Ano20-73, Ano21-122]. **Innovation** [Gen24i, Moo20c]. **Innovator** [Bro22d]. **input** [Cas20f]. **input/output** [Cas20f]. **insde** [Ano22-48]. **Insight** [Zor22c]. **Insights** [Gol25d, Per22c]. **Inspire** [Cla24]. **Inspired** [Sto23, Gen24h]. **Instacart** [RZ21]. **Instant** [Sch21d]. **Institute** [Gol22d, Raf20a]. **Instrument** [Ake23]. **Instruments** [CP21, Ano22-51]. **Insulin** [KK21]. **Insurance** [Ano21-121]. **Integrated** [Pau22]. **Intel** [Rak24a]. **Intelligence** [Bro21, Gol23a, Lau24a, CHM21, Fun20, Hut21]. **intelligent** [Ano20-90, Pou22, Pri21]. **intended** [Der21d]. **Intentional** [Jon23g]. **Interactive** [Gol25d, Ros22a]. **Interconnector** [KP24]. **Interconnects** [CPBZ21]. **interface** [Per20o]. **interference** [Bra21]. **Internet** [AFH22, Der22b, Hig20b, Hig20d, Hig20e, Hig20f, Hig20h, Hig20i, HP21a, HP21b, HP21e, HP21f, HP21c, HP21d, Mit20, PRR23, Per23, PSD22, Sha23, Shi22, Tow21]. **interoperable** [Koz21b]. **InterPlanetary** [PSD22]. **interrupted** [Ham20a]. **Introduction** [SM24]. **Invented** [Ano20-78, Cro20]. **Invention** [Gen24c, Lau24a, SM24, Ano22-130]. **inventions** [Gol24e]. **Inventor** [Mar24f]. **inventors** [Moo20c]. **Inverters** [KH24]. **Invisible** [Kuh24, Gol22c]. **ion** [Kum21, Mur23]. **IoT** [Ano20-79, Hig20c, Pes20b]. **Irene** [Gen24l]. **Irresistible** [VA23]. **Island** [Koz21a, Koz24c]. **Isn't** [Lau25b, Cha23, Koz23c, MMM24]. **Issue** [Ano25-101]. **Issues** [Zac25]. **Italian** [WA24]. **items** [CKG+21]. **Itself** [Bra21, Smi21l]. **Iverson** [Der21e].

Jacob [Per21b]. **Jam** [Har21]. **James** [Mar23c, Sch21b]. **Janelle** [Ano23a]. **Janky** [Kol25]. **Japan** [Fru20, McC20]. **Java** [Ano20-95]. **Javier** [Gen25f]. **Jenkins** [Fai23c]. **Jersey** [Sha23]. **Jesse** [Fai23c]. **Jetson** [Cas20d]. **Jim** [Gen23a]. **Job** [Ack22b, Gen24a, Per20f]. **Jobs** [Der21e, Rak25c, Ack24d, Koz20a, Per20j, Per20m]. **John** [Der23a, Per20n]. **Johnny** [Gen25i]. **Jolt** [Dol23a]. **Jonathan** [Der23d]. **Joppe** [Gen25g]. **Journal** [And20f, Ano20-91, Ham20d, Ham20b, Hsu20c, Wal20b]. **Journalists** [Gol24c]. **Journey** [Der23b, Gen24g, Moo24e]. **Joy** [Str24a]. **JPEGs** [Smi25a]. **JPL** [BD22, Cha21a]. **Juan** [Bro22b]. **Jugular** [Wal24b]. **Juice** [Jon23h]. **Julie** [Der22g]. **Julien** [Moo24b]. **Jump** [Ros22a]. **Jump-Start** [Ros22a]. **JUPITER** [Dum23]. **Just** [BF24, Gol24i, Koz23c, Pat23b, RC25, MS22].

K5 [Cas24e]. **Kahn** [Gol24f]. **Keep** [Ano21-123, Gol25g, Pes21b, SSJ+25, BMRW20]. **Keeping** [SSB25]. **Keeps** [Gen24f, Gen24j, Gen24l, AG20, Ulr20a]. **Kelp** [Pat24a]. **Kenya** [Der22e]. **Kepler** [Mit20]. **key** [YS20]. **Keyboards** [Mul24]. **Ki** [Kim22]. **kicked** [Per23]. **Kicking** [Gol23c]. **kid** [PK20]. **kids** [HVW20]. **Killer** [Cha25a, Fai21]. **kilometer** [Jaf22]. **Kilometers** [Moo25c, Smi21e, Cly23]. **Kim** [Kim22]. **kind** [RHBM22]. **kinds** [AMK+20].

Kirchhoff [BSAH21]. **Kit** [Mar25a, Cas20f]. **kits** [Per20e]. **Knee** [Gen25e]. **Knew** [Ack25b]. **Know** [Cas24f, Cas20g, Per23]. **Knowledge** [Mar23k]. **Known** [Mar23c]. **Korea** [Kim22]. **KrakenSDR** [Cas22b]. **Kubernetes** [Cas21c]. **Kyle** [Zor23a].

L [Der23d]. **Lab** [GPUB25, Moo24e, Ham20a, Hec20, Tem20, Moo23b]. **Lab-to-Fab** [Moo24e]. **Lags** [Smi22a]. **Lake** [Gol24i]. **laminography** [LA22]. **lamps** [And20h]. **Land** [Bau24, Goo25, DM20, Ulr22]. **Land-Mine** [Goo25]. **landing** [Fou21]. **Lane** [WPBS23]. **Language** [Cas22c, BBS23]. **language-learning** [BBS23]. **Languages** [Cas21d, CG23, Cas20i]. **Lapse** [Sch23c]. **Laptop** [Smi22l, Mar20c]. **large** [Per20f, VH20]. **Largest** [Mos25a]. **Larry** [Per20o]. **Laser** [BVKR23, Cas25c, Gen24m, Mar22l, NYI24, Moo23b]. **laser-based** [Moo23b]. **Laser-Propelled** [Cas25c]. **Lasers** [BVKR23, BBFS22, NYI24, Ros23b, Cho20, Koz23b]. **last** [Som21]. **Lasted** [Shi22]. **lasting** [Ano20i]. **Later** [SB22a, Smi20d, Smi23b]. **Latest** [JPWB21, MJH+21, SAS+21, Cas20i, CKG+21]. **Lattice** [BBFS22]. **Launch** [Fou22, GO22, Pot20a, Sto20]. **launched** [Bro22b]. **Law** [BSAH21, Der23d, Smi22i, Boy24, BSAH21, CPBZ21, Moo24d, Moo24b, Per20c, RK22, SSB25, Van23]. **Law-for** [Smi22i]. **layer** [Gol22f]. **Layoffs** [Rak25c]. **lead** [AMK+20]. **Leader** [Der21f, Ros25]. **Leaders** [Per24a]. **leads** [Der22h, Dum22]. **league** [Ano20-51]. **leaks** [MJS20]. **Lean** [Moo25a, Hub24]. **leaner** [Hus24]. **Leap** [Cho23, Gen24c, Zor22b]. **Leapfrog** [Rak24a]. **Learn** [BBS23, Cas21c, Kas23, McD25, Per24b, CHM21, Sca22]. **Learned** [ALRW21, Goo23a]. **Learning** [Ack21b, Ano21-125, Ano21-126, Bai25, Gen25f, GH23, Ham21, Kin25, MMM24, MSS21, RZ21, Sch21a, Str22a, TGLM21, Ano21-113, BBS23, Cas20d, DHOW20, Hig20d, LDO22, Moo20e, Per20n]. **Learns** [BBS23]. **lease** [Red20]. **Leaves** [Bea22]. **Lebanon** [Gen25h]. **led** [Hut20, Per22a]. **Left** [Zor24b]. **Legacy** [Ack24a, Ano20g]. **legal** [Hoc22]. **Legged** [Ack24d]. **Lego** [Tem20]. **Leland** [Jon23a]. **Lely** [Gol25a]. **Length** [Smi21d]. **Length-to-Beam** [Smi21d]. **Less** [Bai25, Sch22a, Per20b, Sch22d, Smi22e]. **Lessons** [CG23, Cha21b, Gen22, Kol25, Mar22j, SSJ+25, Goo23a]. **Let** [Cas20b, Der21e, Sch21b, WAC+20]. **Lets** [Der22d]. **Letters** [Tho21b]. **Letting** [Cas24a, RHBM22]. **Level** [Gol22b, Kas23, And20g]. **Leveraging** [AS22]. **LGBTQ** [Gen23c]. **Libi** [Cas24a]. **Lidar** [WPBS23, Per21a]. **Lie** [Smi21d, Smi21e, Smi21f, Smi21c, Smi21g, Smi21h, Smi21i, Smi21j, Smi21k, Smi22a, Smi22b, Smi22c, Smi22e, Smi22j, Smi22i, Smi21b]. **Life** [Ano20-81, Bow21, Cas20c, Gen22, Zdr25, Cas20a, Der20, Fru20, Gen23b, Har22, Pri21, Red20, Smi22d, Cas20b]. **Lifesaving** [Per22a]. **Lift** [Fou22]. **Light** [Ano20-82, Gen23a, Mar21j, Mos22, SC23, Sch21a, Ano20-67, Ano21-50, AF23, Ham21, Koz20c, Mar20i, Raf20a]. **lightens** [Ham20d]. **Lightest** [Jon22c]. **lighting** [Has20b]. **Lightmatter** [Sch21a]. **Like** [Rak25a, Moo22c, WB21, ZL20b]. **Limbs** [FBMI23]. **Limit** [Gib25]. **Limited** [And20d]. **Limits** [Smi21d, Ano21-113, Ano21-123]. **Limor** [Cas23a]. **Line** [Gen24d, Poo24a, Ulr20b]. **Linear** [Svr23, Gar20]. **Lines** [Cha20a, Has20a, Has20b, Luc20a, Per20b, Per20l, Per20n, Per20e, Per20h, Per20o, Pre20]. **Link** [Zee25, Dum20]. **liquid** [Smi22k]. **Listen** [Pri21]. **lists** [Ano20-95]. **lite** [LG20]. **Literally** [Ros22a]. **Lithium** [Cha24, Kum21, Mur23, Kum20]. **Lithium-ion** [Kum21, Mur23]. **lithium-metal** [Kum20]. **Lithography**

[Boy24, Van23]. **Little** [Coo21, Mar23c, Mar25e, Mar22j]. **Liu** [Wal24a]. **Live** [Mar23c]. **lively** [Ano20-82]. **lives** [Ong20]. **Living** [CZG25, De 22, MWS+25]. **LLMs** [Zor25b]. **load** [DM20, Ham20d]. **Location** [Ano20-83]. **logjams** [DM20]. **Long** [Bro22a, Gol25f, Moo25c, Mur23, Smi21d, Smi21m, And20d, Hig20j, Ros22d]. **long-range** [Ros22d]. **Long-Term** [Gol25f, And20d]. **Longer** [Mos25a]. **Look** [Ano20-84, Cop25, PK20, Per21a, Sch20d, Str24b, VA23]. **Looking** [Ano21-124, Gol23d]. **Looks** [Tei23, Ano21-27, Ano22-55]. **Loop** [Ack23a, Bro21, Sch20b]. **loopholes** [Hoc22]. **LoRa** [Cas24d]. **LoRa-based** [Cas24d]. **lose** [Per20i]. **Lost** [Bog25]. **Lot** [Coo21, Gib25, Per24b, Cas20d, Cas20f]. **Lots** [Gol25g]. **Love** [Cas23b, Gen25f, McD25, Cas22a]. **loving** [Der22b]. **Low** [And25c, Bow21, Ver24]. **Low-Cost** [Ver24]. **Low-Dropout** [Bow21]. **Lower** [Lew23]. **LTA** [Koz23d]. **Lu** [Der22c]. **Luke** [Str23]. **lunar** [LSM23]. **Lurk** [Cas23c]. **luxury** [GA20, Has20b].

Mach [Ros20a, Sch21e]. **Machine** [Ano21-125, Ano21-126, Bro23a, Bro22c, Bro22b, Bro22d, DHOW20, Gen25f, GH23, Hig20d, MMM24, Mar24i, Pau21, RZ21, SB22b, SB22c, SSB25, Str22a, Van23, Cas20d, Cas23a, HPK22]. **Machine-Learning** [Str22a, Cas20d]. **Machines** [Gen24f, AG20, Smi20c]. **Macro** [HP21a, HP21b, HP21e, HP21f, HP21c, HP21d, Pes20a, Pes20b, Pes20c, Pes22, SP21a, SP21b, SP21c]. **Made** [Cas21c, Cha21a, Col25, Gol24f, Gol24g, Pot24, Str25b, Arm20, Hsu20a, Per20i, Wea20]. **Madni** [Per22a]. **Magaly** [Der22d]. **Magazine** [Ano21-127]. **Magdalene** [Der22e]. **Magic** [Gen23a, Gen25f]. **Magnetic** [Shi22]. **Magnetometer** [Sch22d]. **Magnets** [BBFS22]. **Mail** [Mar21h]. **Mainspring** [Svr23]. **Major** [Der21f, Pau21, Cly20]. **Make** [BVKR23, Bro23a, Der22d, Gen25i, Gol22a, Gol23g, Gol25a, Kim22, LH24, Lew20, Pat23b, Pat24a, Poo24b, RZ21, AS22, Ano20-66, Baj22, Fai23b, Has20a, Hus24, Jes21, Koz21b, Moo24c, Pat20, Pat24b, Per20b, PSD22]. **Makeover** [Ulr22]. **Maker** [Jon24b]. **Makers** [Cas24d, Hsu20a]. **Makes** [Coo21, Gen23d, Tho21a, Cas20d, Gen24k, Hut21]. **Making** [Bro22a, CZG25, Fai23b, Gol24f, HVW20, Hig20e, SJY25, Gol23d, Hut21, Per21b]. **male** [Per20b]. **Maluta** [Der22e]. **malware** [Ham20c, Sha23]. **Man** [Koz24a, Mar23c, Abb23, Reg23]. **Manager** [Aro24, SG24]. **Managers** [Gen25i]. **Managing** [Cha20a]. **Manan** [Gen24h]. **Mania** [Rak25b]. **manifests** [Str24b]. **manufacture** [Gib21]. **Manufacturers** [ACDG21, Pes21b]. **Many** [BVKR23, And20h, Hut20]. **Map** [Sch25b, Tow21]. **Mapped** [Wal22]. **Maps** [Wal22]. **Marcellus** [Der21f]. **Maria** [Der22f]. **marine** [Der22h]. **Mark** [Cho23, Zor24b]. **Market** [Ash23, Gen24b, McD25, Has20b]. **Mars** [Cas20c, Mar25e, Pot20a]. **masks** [Pre20]. **Mass** [Smi23a, Has20b]. **mass-market** [Has20b]. **Mass-Produce** [Smi23a]. **Masses** [Gen23e, Per22b]. **Massive** [BBFS22]. **Masterpiece** [Jon22d]. **Masthead** [Ano22-124, Ano22-125, Ano22-126, Ano22-127, Ano22-128, Ano23-123, Ano23-124, Ano23-125, Ano23-126, Ano23-127, Ano23-128, Ano23-129, Ano23-130, Ano23-131, Ano23-132, Ano24-131, Ano24-132, Ano24-133, Ano24-134, Ano24-135, Ano24-136, Ano24-137, Ano24-138, Ano24-139, Ano24-140, Ano24-141, Ano24-142, Ano25-91, Ano25-92, Ano25-93, Ano25-94, Ano25-95, Ano25-96, Ano25-97, Ano25-98, Ano25-99, Ano25-100]. **Match** [Gol24g, Smi22k]. **Materials** [ROK24, WA24]. **Math** [Cho21, SSB25]. **Matic** [Cas25e]. **MATLAB** [Ano21-128, Ano22-50]. **Matrix** [SZ23]. **Matter** [Gar25]. **May** [Cox25, Gar25, MMM24, Pat23b, Pot20b, Pow24, Smi23c, Zor25b, Ano21-113, Cha24, Dol23b, Gib25, Ros21, Sch22e, ZL20b, Wal25a]. **Mayflower** [And20a]. **McDonald** [Ano20-87]. **Me** [Ano22-122, Bro23c, Kol25, Sha23, Ano21-116]. **mean** [AMK+20, Der20]. **Means** [Ack22c, Cla24]. **Meanwhile** [Ano20-85]. **Measure** [Gen25c, Mar23j, Smi21n]. **Measures** [Gol24h, Pre20]. **Measuring** [Smi21e]. **Meat** [Smi22h]. **Meat-Eating** [Smi22h]. **Mechanical** [Ano24-143, Mar24h, Mie22]. **Mechanics** [Gol25b]. **Media** [Cas25f, Str24b, Nor20a]. **Medical** [Bea22, Bla25, Mar25c, Ano20-68]. **medicine** [CFPP22]. **Meet** [And25c, Cha25a]. **Megatalent** [Ano24-143]. **Megatruck** [Jon22c]. **Melanie** [Der22h]. **Melt** [NYI24]. **melts** [Gal20a]. **Member** [Ano21-117, Ano21-118, Ano21-119, Ano21-121, Gol21, Ano20-71, Ano20-93, Ano21-120, Ano22-123]. **membership** [Ano20-71]. **memories** [Ano20-88]. **Memory** [BSAH21, Cas22g, Gol25g, Moo22b]. **MEMS** [Zor20]. **MEMS-based** [Zor20]. **Mental** [SHP24a]. **Menus** [Bro23a]. **Merchant** [Pat24b]. **Merely** [Smi21f]. **Merryl** [Der20]. **Mesh** [Cas24d]. **Meshtastic** [Cas24d, Cas25f]. **Mesmerizing** [Sch23c]. **mess** [Hut20]. **Messages** [Ham20b]. **Messy** [She24]. **Meta** [Gen22, Gen24j]. **Metal** [Cha21a, GO22, Cas20h, Kum20, Sch22c]. **metal-rich** [Sch22c]. **Metalenses** [Gob23]. **Metallic** [GO22]. **Metals** [GH23]. **Metamaterials** [Pou22]. **methane** [MJS20]. **Methods** [Gib25]. **metric** [Smi22i]. **Micro** [HP21a, HP21b, HP21e, HP21f, HP21c, HP21d, Pes20a, Pes20b, Pes20c, Pes22, SP21a, SP21b, SP21c]. **Microcomputer** [Ack23d, Cas23d]. **Microcontroller** [Ros22b]. **microcredit** [Fai21]. **Microgrids** [FOSMD23]. **Microgried** [FOSMD23]. **MicroLED** [Ham20b]. **microLEDs** [Moo23b]. **Micromanufacturer** [Cas22d]. **Microphone** [Sch24a]. **Microsatellites** [MJS20]. **microscope** [Tem20]. **microscopy** [WAC+20]. **Microsocial** [Cas25f]. **Microstory** [Gol24j]. **Midair** [Mie24]. **Middle** [Aro24]. **midst** [Der22b]. **might** [AMK+20, And20h, Ham21, HS23, WB21]. **mighty** [MS22, Smi22g]. **Migrating** [Sch24a]. **Mile** [Koz21b]. **Milestones** [Gol25f]. **Military** [Cla24, Har21]. **Milk** [Gol25a]. **Milking** [Ack25a]. **Millimeter** [Gal20a]. **million** [Hec20, Pot20b]. **Millionfold** [Gib25]. **millions** [Smi23b]. **millisecond** [Pan20]. **Mind** [Gen24c, Kim22]. **Mind-Set** [Gen24c]. **Mine** [Goo25, Sch25b]. **Minerals** [GH23]. **Mines** [Bau24]. **minikit** [Cas20g]. **Minimalist** [Str22a]. **Mining** [Sch22c, Zor22d]. **Mira** [Gen25h]. **Miracle** [Smi23b]. **Miss** [Lau25b]. **Missile** [Cha21b]. **Missiles** [Ros23b]. **Mission** [GO22, Red20, Jon24a]. **Missions** [BD22, Cas25c, BMRW20]. **Missy** [Mar23k, Ros23a]. **mist** [And20b]. **mix** [Zor22a]. **Mobile** [Ham20c]. **modded** [Cas24e]. **Model** [Cas22f, Jon24b, Ras20b]. **modeler** [Fai23c]. **modeling** [Pre20]. **models** [Hut20]. **Modems** [Per25]. **Modern** [Ack24a, Bro23a, Cor21b, Ano22-130, Lee20, Smi22i]. **Modernize** [Gol25e]. **Modernized** [Lau25a]. **modular** [Pat24b]. **Molly** [Koz23c]. **Moment** [Gol23b, HF22]. **Moments** [Lau24a, PRR23]. **Momentum** [Kum21]. **Money** [Bow21]. **Monitor** [Kir25]. **monopoly** [Koz21a]. **Monthlong** [Zor25b]. **months** [Scu20b]. **Moon** [Jon24a, BD22, Fou21, LSM23, Zor22b]. **Moore**

[Boy24, CPBZ21, Gol24h, Moo24d, Moo24b, Per20c, RK22, Smi22i, SSB25, Van23]. **Morgan** [Gen23b]. **Mortalities** [SB22a, Ano20-88]. **MOSbius** [Kin25]. **Most** [Ack23b, ALRW21, Cas24e, Lev21, Mar25d, Ano22-130, Smi22i]. **motion** [Rae20]. **Motor** [Der21h, GP22, Mar21k]. **Motorized** [Ham20d]. **Motors** [ROK24]. **mouse** [Cas24e]. **Mouse's** [Ano24-144]. **Mouse's-Eye** [Ano24-144]. **Move** [Gol25h, Moo23a, Str24a, Ack22b]. **Movement** [Bou21, Smi22l]. **Movie** [Smi21l]. **Moving** [Gob23, Gen24k]. **MPGs** [Sch23b]. **Mr.** [Per23]. **Much** [BF24, WB21]. **Muddy** [Sch22c]. **Muffling** [Lew23]. **Multiphysics** [Ano21-63, Ano20t]. **Municipal** [Jon24b]. **Muons** [Sch25b]. **murky** [Fou22]. **Musk** [Smi21f]. **Must** [SS25, LSM23]. **Must-Have** [SS25]. **mutates** [Ham20c]. **mute** [Ros20b]. **My** [Bro23c, Coo22, GK24, Mar24e, Lev20]. **Mysteries** [Jon23i]. **mysteriously** [Fru20]. **mystery** [MJS20]. **Myth** [Bro22c, Bro22b, Bro22d, SB22b, SB22c].

Naffziger [Moo23a]. **Naked** [LA22]. **nano** [Cas20d]. **Nanometer** [TB21]. **Nanometer-Scale** [TB21]. **Nanoparticles** [Cha24]. **Nanoscale** [Gen24m]. **Nanostructures** [Gob23]. **Narrative** [Mar21i]. **narrow** [Fou21]. **NASA** [BBFS22, Der21f, Fou21, Fou22, GO22, JAR24, Jon24a, Pot20a, Pot24]. **nasal** [And20b]. **nascent** [Rak24a]. **nasty** [Sca22]. **national** [Sto20]. **Nature** [Gol23e]. **navigation** [Ano21-134]. **Navy** [Gen23c]. **Nazi** [Mar21f]. **Near** [Smi21e]. **nearby** [Hsu20c]. **Need** [Ack23b, BBS23, Cab24, Cas24f, Cas25b, Fit21, Gib25, KH24, Web25, Cas20f, Gal21b, Gol24e, MMP22, Pan20, Ros20a]. **need-for-speed** [Ros20a]. **Needed** [MZR21]. **Needs** [BD22, Fit21, Gol25c, BSG22, Ham21].

Neighboring [Cas25c]. **neighbors** [Ano20-66]. **Neira** [Gen25e]. **Nerve** [Dol23a]. **Nervous** [CZ25]. **Nest** [Has20b]. **nets** [Moo22b]. **Network** [BSAH21, Cha21b, FOSMD23, Fra21, Gen24j, Hig20f, Tow21, Fai24a, Koz21b, SMD20]. **Networked** [PRR23]. **Networking** [Bro23a, Has20b]. **Networks** [Cho21, Lau25b, MSS21, Ham21, Pan20]. **Neural** [BSAH21, Cha21b, Cho21, Fra21, MSS21, Dut22, Ham21, Moo22b]. **Neural-Network** [BSAH21]. **Neuralink** [Wal24b]. **Neuromorphic** [Coh22]. **Neurons** [FBMI23, Poo24a]. **Neuroprosthetic** [Str22b]. **Neurorights** [SG22]. **neurotech** [SG22]. **Neutrino** [Jon23i]. **Never** [Ack25b, Ama25, BS22]. **News** [ACDG21, ARPH22, ACLS22, And20b, AMK$^+$20, And20d, And20e, And20g, Ano20h, Ano20-46, Ano20-49, Ano20-51, Ano20-83, Ano20-82, Ano20-85, Ano20-87, Ano20-89, Ano20-50, Ano21-129, Ano21-130, Ano21-131, Ano21-132, Ano21-139, BGR$^+$21, BJZM24, CJGC24, CAM$^+$25, CKG$^+$21, CSB22, CKX$^+$23, DUG$^+$25, Dum20, Fai20a, Fai20b, Gal20a, Gar20, GHG$^+$22, GMB$^+$24, Gen24b, GCM$^+$25, GDUF22, GAS$^+$24, GPS$^+$25, Ham20a, Ham20c, Hec20, HPHU21, Hsu20a, HCP$^+$23, JPWB21, Koz20b, KPG$^+$21, KPCA23, Lau23a, LSM$^+$25, MLF$^+$24, Moo20c, Moo20a, MJH$^+$21, MDC$^+$22, MHLC23, NS20, Nor20a, Ong20, Pat20, PPUS22, PMPG23, PCRC24, PLUM23, Per20a, Pot20b, Pot20a, PHR$^+$25, Raf20a, Raf20b, RJSP25, RCAP23, Ras20a, Ras20b, Red20, Ros20b, RPC$^+$23, SAS$^+$21, Scu20a, SCPG22, SCPC23, SZCB24, SMTB25, Str20b, SCMP22, SGS$^+$23, SHC$^+$24, SHP$^+$24b, SWJ$^+$25, Ulr20a, WAC$^+$20, ZJL$^+$24, ZSG$^+$24]. **Next** [Dol25, Gol25c, Moo24b, Pal22, Pau22, Van23, Zor22b, Ano21-113, Ano22-58, Fai24a, Gui20, Koz24d, Ano20-68].

Next-Gen [Dol25, Pau22]. **next-generation** [Fai24a]. **Ng** [Str22a]. **Niche** [Cas22d]. **Nigeria** [Lau25a, Lau25b]. **Night** [SC23, Sch24a, AF23, LSM23]. **Nile** [Smi20b]. **No** [Baj24, Cha20b, Jon23k, Kuh24, Lau23b, LA22, Sch21b, Ack21a, BMRW20, Has20a, Smi22d]. **No-Fuss** [Kuh24]. **no-tech** [Has20a]. **Nobelist** [Mar22l]. **node** [Moo20d]. **nodules** [Sch22c]. **Noise** [Ros20b]. **Noise-canceling** [Ros20b]. **nonsense** [Moo20d]. **Nonspeaking** [JKW25]. **normal** [Per20d]. **North** [Ano20t]. **Nose** [Str22b]. **Nothing** [Gen25c, Gol22e]. **notices** [Cha20b]. **Novel** [Gib25, Gol24e]. **November** [Bro22b]. **now-famous** [Bou20]. **Nowhere** [Smi21e]. **Nuclear** [AL25, Baj22, Bla25, Jon22h, Kon24, Mar25a, Pat24b, And20d, Cly20]. **Nuclear-powered** [Pat24b]. **number** [VH20]. **Numbers** [Smi21d, Smi21e, Smi21f, Smi21b, Smi21c, Smi21g, Smi21h, Smi21i, Smi21j, Smi21k, Smi22a, Smi22b, Smi22c, Smi22e, Smi22j, Smi22i]. **Numerical** [Van23]. **Nvidia** [Cas20d, Smi24].

O [Cas25e]. **obey** [Ack20]. **Object** [Mar23b]. **Objects** [Ack25b]. **obscure** [Cho20]. **Observatory** [Ack25b]. **Obsolete** [SH22b]. **occur** [Koz20c]. **Ocean** [Der22g, Sch22c, Zor22d]. **Oceans** [Baj22]. **Ode** [Ano23-133, Mar22k]. **Off** [Cly24, Fai21, Fou22, SJY25, Cox25, DM20, Per23]. **Off-Grid** [Fai21]. **Off-the-Shelf** [Cly24]. **offense** [And20h]. **Offer** [Dol25]. **offers** [Ano20-71, Lew20]. **officer** [Gen23c]. **Offices** [Gen24g]. **offs** [Lau24b]. **Offset** [Smi21j]. **Offshore** [Fai23a, MD23]. **Often** [Ano23a, You22, Smi22e]. **Ohm** [BSAH21]. **oil** [Her20, Smi20f]. **Old** [Abb23, Ack22a, Cly24, Smi21f, WA24, Zor22c, Cas20e, Hec20, Lee20, LDO22, Ano20-87]. **oldest** [Mie22]. **OLED** [Pal22]. **Olsen** [Der22h]. **Olympics** [Lau24b, Lau24b, Pat22]. **Omicron** [Wal22]. **Omnivorous** [Svr23]. **on-the-spot** [Per20a]. **Once** [Gol23a, RHBM22]. **One** [Ake23, Ano21-116, Aro24, BVKR23, Cas25e, Gen24g, Gol23h, Gol24g, Koz24a, Sch21b, Smi22a, Zor22b, Ack21a, Ano21-138, Cha20b, Chi21, ZL20b]. **One-Time** [Cas25e]. **Online** [Gen22, RS23, Pes21a]. **Only** [Cas25b, Gol22a, RK22]. **opacity** [Hut21]. **Open** [Ack24c, Gen24b, Ver24, Koz21b]. **Open-Source** [Gen24b, Ver24]. **opener** [Lew20, Zor23c]. **operations** [Sch22e]. **operators** [Koz21a]. **Optic** [Lau25b]. **Optical** [Gen24c, Nor20a, Sch21a]. **optics** [Ano21-134]. **Optimized** [Ano20-78]. **Option** [Pat24b]. **Options** [Mul24]. **optophone** [Tho21b]. **Orbit** [And25c, Mar20c]. **Orbital** [And25c]. **organizations** [Str24b]. **organize** [Dum20]. **origin** [Per20l]. **original** [Ros20a, Smi23b]. **Orman** [Gen25f]. **Oscar** [Gen23a]. **oscillators** [Cas20b]. **Oscilloscope** [Cas20e]. **Other** [Bro22d, Gol23g, Kon24, MWS$^+$25, RZ21, Mit20]. **Our** [Ano21-122, Ano21-124, Cas20i, Cas21d, Gol23e, Gol23g, Gol25d, GK24, MZR21, SSJ$^+$25, Smi22d, Ano20-72, Ano20-73, RS23, WB21]. **Outcomes** [Gol25f]. **outposts** [LSM23]. **output** [Cas20f]. **outputs** [Sch23b]. **Overnight** [Bro22a]. **Oversees** [Der21f]. **Overtake** [Ack21a]. **Own** [Cas22g, Cas25b, Sch23c, Szk21, WB21]. **oxide** [Jes21].

Pac [Reg23]. **Pac-Man** [Reg23]. **Package** [Rab22]. **Packetizing** [AFH22]. **packs** [Cas20d]. **Pad** [Cas25e]. **Pad-O-Matic** [Cas25e]. **Pads** [Cas25e]. **paid** [Per20b]. **Painless** [Cas20f]. **Painting** [Fra21, Wal25a]. **Pallets** [Ros22d]. **Pan** [Bro22b]. **Pancreas** [KK21]. **Pandemic** [ALRW21, Ano20-88, Hig20g, Pes21a, Ano20-92, Cha20a, Ham20a, Has20a, NS20, Per20d]. **pandemics** [YS20]. **Panel** [Bor24]. **Panels** [WA24]. **Paper** [HF22]. **Parachute** [Ros22a]. **Paradox** [Smi21n]. **Parcae**

[Ama25]. **Parcel** [Smi22f]. **Paris** [Lau24b]. **park** [Fai20b]. **Part** [Pot24, Smi22f, SH22b, Cas22f]. **Particle** [Boy24, Gen24l, Kuh24, Arm20, Gar20]. **particle-accelerating** [Gar20]. **particles** [AMK+20]. **Partridge** [Der22b]. **Parts** [Cas25b]. **Passes** [Pep25, Gar20, Koz20c]. **Passive** [Cas22b]. **Password** [Coo22]. **Past** [Ano23-134, Bre20, Bro23b, Cas24a, Cho23, Cor21b, Goo23b, Goo25, Mar20a, Mar20b, Mar20c, Mar20f, Mar20g, Mar20i, Mar21d, Mar21e, Mar21f, Mar21h, Mar21k, Mar21i, Mar21j, Mar21c, Mar21g, Mar22i, Mar22j, Mar22l, Mar22k, Mar22a, Mar22b, Mar22c, Mar22d, Mar22e, Mar22f, Mar22g, Mar22h, Mar23b, Mar23d, Mar23e, Mar23f, Mar23g, Mar23h, Mar23i, Mar24b, Mar24k, Mar24f, Mar24d, Mar24g, Mar24e, Mar24h, Mar24c, Mar24i, Mar24j, Mar25a, Mar25c, Mar25e, Mar25d, Mar25f, Mar25b, Mar25g, Str21, Ano22-130]. **paste** [Per20o]. **Patch** [Kir25, Sha23]. **Patchwork** [Cha25b]. **Patent** [Gol24i, Gol25d, Rak25d]. **Patent-Power** [Gol25d]. **Path** [KH24, LW24, Mar25d]. **Pathfinder** [Koz23d]. **Paths** [Moo22a]. **patients** [Ano20-68, Arm20]. **Patryk** [Gen24i]. **pattern** [Smi22j]. **Paul** [Rak25a]. **Pay** [Cal24, Gol25h, Per21c, Per20h]. **PC** [Bro23a]. **PCB** [RG20]. **Peak** [Smi20f]. **Peculiar** [GPUB25]. **Pedaling** [Sch20c]. **Peer** [PSD22]. **Peer-to-peer** [PSD22]. **Peering** [Pes21a]. **People** [Ack23b, Cas24a, CZG25, Gol25h, JKW25, SH22b, Ano20-68, Fou21, Gol22d, Sch20b, Sch20d, Tho21b, Wea20]. **Pepsico** [McC20]. **Percent** [KH24]. **Perfect** [Cas25e, Gen25a]. **perform** [AG20]. **Performance** [Poo24a, Ver24, Moo20b, Moo22b]. **Perhaps** [Baj22]. **Peril** [Sch21e]. **Perilous** [Mar21i]. **Perry** [Gol23f, Gol24c]. **Perseverance** [Pot20a]. **person** [And20e]. **Personal** [Der22e, Pot20b]. **Personalized** [Gen25d]. **perspective** [Ano20-47]. **Perspectives** [Ano25-102]. **Peter** [Gen23c]. **Pets** [Fit21]. **Phase** [Moo24b]. **phenomenon** [Cho20]. **Philip** [Gen22, Zor23b]. **Phoenix** [Rae20]. **Phone** [MZR21, Tho21a]. **Phone-Free** [Tho21a]. **Photon** [Ano20-89]. **Photonic** [Ham21, NYI24]. **Photonics** [BVKR23, Cho20]. **Photons** [SC23]. **Photos** [Smi25a]. **Physics** [Gar25, Arm20]. **Pi** [Sch23a, Cas21c, Ros22b, Sch23c]. **Pi-Based** [Sch23a]. **Piccard** [Zor25a]. **Pichardo** [Der22d]. **Pico** [Ros22b]. **Picture** [Ano21-53, Ano21-54, Ano21-55, Ano21-56, Ano21-51, Ano21-52, Ano21-114, Ano21-136, Ano22-56, Ano22-57, Ano22-58, Jon22f]. **Pie** [Smi22h]. **pieced** [Bou20]. **Piezoelectrics** [Gan24]. **Pillai** [Goo23a]. **Pilot** [Ros23a, Ong20, Sch22c]. **Pilots** [Ros22d]. **Pinch** [Cly22]. **Pioneer** [Gen25e, Str22a]. **Pioneering** [Cop25, Moo23a, Moo21]. **Pioneers** [RC25]. **Pivot** [Gen25e, Per22a]. **Pixar** [Smi21l]. **Placentas** [Zim21]. **places** [And20h]. **plain** [MS22]. **Plan** [Bla25, HH24, Pot24, RS23, Per20a]. **plane** [Per22a]. **Planet** [Lev21, MZR21, Pot20a, WB21, Ano21-136]. **Planetarium** [Mar24c]. **Planetary** [Cha25a]. **Planets** [Pow24]. **planning** [MMP22]. **Plans** [GPUB25, Jon23b, Zee25, Ham20a, SG22]. **plant** [Ulr20b]. **Plastic** [Sch24a]. **plastics** [Gol22a]. **Plate** [Smi22b]. **platform** [Sto20]. **Platforms** [Cha25b]. **Play** [Cas24a, Coh22]. **players** [Gol22b]. **plea** [Hub24]. **Pledges** [Fis24]. **Plenty** [Smi22a, Pou22]. **plotter** [Cas20g]. **Plotting** [Cas20g, Cas25d]. **Plugging** [LSM23]. **Plus** [Ake23, Ano20-71]. **Plutonium** [Pat23b]. **pneumatic** [Fru20]. **Pocket** [Rak24b]. **Podcast** [Gol23g]. **Podcasts** [Ano20-100]. **Point** [MCG24, Cas22e]. **points** [Ano20-99]. **poised** [And20c]. **polarization** [Koz20c]. **Polaroid** [Zel20]. **Pole** [LSM23]. **Policymakers** [Cha23, Hut20]. **Polymath** [Lau25a]. **pool** [Per20f]. **Pope** [Gen23b].

Popular [Ros22b]. **Population** [Bro22c, Smi21k, Zac25]. **Portfolios** [Gol25d]. **Portrait** [Ano21-133, Bou20, Gol23f]. **Possible** [Cla24, Gol24f, Fou21, Has20a]. **Post** [Rao24, Per20d]. **post-pandemic** [Per20d]. **Post-Quantum** [Rao24]. **Potassium** [Pat20]. **Potent** [Fai23a]. **potential** [Ano20-70]. **potentials** [Ano20q]. **Power** [AFH22, Ano21-56, AF23, BBFS22, Bar24, Bow21, CPBZ21, Eis23, Fai24a, Fit21, GPUB25, Gol24a, Gol25d, Jaf22, MSS21, Mos25b, Poo24a, Rak25d, And20d, Ano20i, Cas20d, Cly20, Cly23, Fai20a, Fai23c, Gar20, Hig20b, JJS22, LSM23, Lee20, Moo20b, Rak24a, Sch20c, Smi22i, Ulr20a, Ulr20b]. **power-delivery** [Rak24a]. **Power-Line** [Poo24a]. **Power-Saving** [GPUB25]. **Powered** [Ano23-137, Jon25, Lau24a, MW20, Pat24a, Pat24b]. **Powerful** [BBFS22, Jes21]. **Powering** [Fai24b]. **Practical** [Cho20, Smi21d]. **Pratt** [Ack22a]. **Precise** [Lev21, WB21]. **precision** [BSG22]. **Prepping** [Rao24]. **preps** [Pot20a]. **Prescription** [And20e]. **Prescription-strength** [And20e]. **present** [Ano22-130]. **Preserve** [Baj24]. **Preserving** [RS23]. **Press** [Cas25e, Ano20-50]. **Pressure** [Kir25, ALRW21]. **prevent** [Kum21, Per22a]. **preventive** [Pre20]. **Price** [Gol25h, GA20]. **prices** [Ano20-45]. **print** [Ano20-50]. **printed** [RG20, Tho21b]. **Printer** [Mar25c, And20f, Zel20]. **PrintFixer** [And20f]. **Printing** [BF24, SC23]. **Prints** [Cas25e]. **Privacy** [Pes20e, RS23, Ano21a, Hig20g]. **private** [Hoc22, Hsu20b]. **Prize** [Pot20b]. **Pro** [Per24a]. **Probe** [Cas21d, GO22]. **Problem** [Gol25e, McD25, Gol22a, Hig20c, Sch21a]. **Problems** [And25c, Chi21, Per20n]. **Proceedings** [Ano21-59]. **process** [Cro20]. **Processing** [BSAH21, Moo22b]. **processing-in-memory** [Moo22b]. **Processor** [Moo25c]. **Processors** [Moo22a, Moo25a, Szk21, Moo20b]. **Proctor** [Der21f]. **Produce** [Pat23b, Smi23a]. **producing** [Str23]. **Product** [Ash23, Gen25i]. **production** [RG20]. **productive** [AS22]. **productivity** [Fun20]. **products** [Der22f]. **professionals** [Per20b]. **Professor** [Ano20-90, Ano25-102, Der23d, Mar22j]. **Profile** [Der22g, Der22h, Sac20]. **Program** [Ano21-116, Cas20a, Koz24b, Sch22c]. **programmers** [Gol22b]. **Programming** [Cas21d, CG23, Cas20f, Cas20i, Sca22]. **Programs** [Pat23a]. **progress** [And20d]. **Project** [Cop25, Kol25, MD23, Dum20, Sch23b, Tem20, Ama25]. **Projects** [Coo21, Der21f, Gol23e, Gol25i, Mos25b, And20d, Cas20d, Cas20f, Cas22a]. **Promise** [Sch21e, LDO22, Pat20]. **Promises** [Gol24b, Str25b]. **Promising** [ROK24]. **Prompt** [Gen24a]. **Proof** [Wal24a, Lew20]. **Propelled** [Cas25c, Gen24c]. **Proposals** [Fai23b]. **Proprietary** [Bor24]. **Propulsion** [Zor22c]. **Pros** [SG24]. **Prosthetic** [Jon23c]. **protect** [Gib21, Ras20b]. **Protecting** [Mar23j]. **Proto** [Mar20g]. **Proto-Roomba** [Mar20g]. **Protocol** [Cas23c, Cro20]. **Prototyping** [Cly24]. **protracted** [Smi22j]. **Provide** [Gan24]. **Provides** [Tow21]. **Providing** [Gen25d, Har22]. **proximity** [Ano20-91]. **Psyche** [GO22]. **ptychographic** [LA22]. **Public** [Gen25b, Gol25g, Ack21a]. **published** [Ano20p]. **pull** [HS23]. **pumps** [Fai21]. **Purdue** [Der22c]. **Purpose** [Chi21]. **Pursuing** [Ano20-92]. **pushing** [Ano21-123, Per21c]. **Put** [BVKR23, Bla25, Gol22e, Som21, And20h, Cas20i]. **Putting** [Cas25f, Ros20b, Wal25b]. **Pyramid** [Smi20a]. **pyramids** [Smi22e]. **Python** [Ano20-95, Cas20i, CG23].

Qestions [Moo24a]. **Quakes** [Sch23a]. **Quality** [Gan24, Smi21n, Has20b]. **Quantum** [BS22, CFPP22, Cho23, Gen24c, Gen25c, Gen25g, Gol25b, MCG24, Pal22, Rao24, Ros22e, Scu20a, VH20, AMK+20, CD21, Cas22e, Cho20, PK20]. **Quantum-Centric** [MCG24]. **Quantum-dot** [Scu20a]. **Quantum-Entangled** [Ros22e]. **Quantum-Sensor** [CFPP22]. **Quartz** [Wat24]. **Quasiparticles** [AMK+20]. **Qubit** [Cho23]. **qubits** [Moo20a, VH20]. **Queries** [Smi25b]. **Quest** [JKW25, Jon23d, Kon24, Koz24a, Per20n]. **Question** [Cor21a]. **Questions** [Ack24a, And25a, Ano23a, Cas23a, Cas24a, Gen25a, Gen25b, Jon23a, Koz23a, Koz23b, Koz23c, Koz24a, Koz24b, Koz24c, Moo23a, Moo24b, Moo25a, Rak25a, Rao24, Ros23a, Sch22c, Str23, Str24a, Str25a, Wal24a, Wal25a, Zor24a, Zor25a, And20d, Cha20a]. **quick** [DM20]. **Quiet** [Kon24, Bro22d]. **Quixotic** [Koz24a]. **QWERTY** [Mul24].

R&D [Kon24]. **Race** [Fai23a, Gen24d, Mar25h, You22, Moo23b, Ros20a, Wal20a, YS20]. **Racers** [Ack23c]. **racial** [Per20b, Str20b]. **racing** [And20e]. **racism** [Moo20c]. **Radar** [Cas22b, Cas24f, Tei23, RHBM22]. **Radia** [Mos25a]. **Radical** [Har22, Cro20, Moo21, Ros22d, Zor23c]. **Radio** [Bra21, Cas22a, Cas24e, Cas24d, Cas25a, Laz22, MZR21, Mar24g, Ver24, Zor22b, BMRW20, Cas22b, DHOW20, Mar20d, Mar21f]. **Radio-Spectrum** [Laz22]. **Radioactive** [Cha21a, Gal20b]. **radios** [BMRW20, Bra21, Jes21, Koz20b]. **rail** [MMP22]. **raise** [And20d]. **RAN** [Koz21b]. **Range** [Der22d, Ros22d]. **rankings** [Cas20i]. **Rao** [Moo24a]. **Rare** [ROK24]. **Raspberry** [Sch23a, Sch23c]. **Rates** [Koz21a]. **Ratio** [Smi21d]. **Rattner** [Gen24k]. **Ray** [Ano21-124, Ano21-134, Gen25i, Ros22b, Ros23b, Sch22a, Cas20e, LA22, Mar20f]. **Ray-Gun** [Ros23b]. **Re** [Rak25b]. **Re-Buttonization** [Rak25b]. **reach** [Sch22e]. **reached** [Ano21-113]. **Reactor** [Cly24, Cly20, Cly22]. **Reactors** [Moo25c, Pat23b, Pat24b]. **readers** [Cas22a, LCBH20]. **Ready** [AS22, Cha23, HS23, MMM24, Smi23c]. **readying** [Fou22]. **Real** [BSG22, Kin25, Smi21l, LCBH20, Zor20]. **Real-World** [Kin25, Zor20]. **realistic** [LDO22]. **Reality** [Fai23b, Ros22a, She24, Ano20-102, HVW20, Per21a]. **Realize** [Ano20-70]. **Really** [Cas24f, Sch24c, Zac25]. **Realm** [Dum23]. **reams** [Har22]. **reappear** [Per21b]. **Reasons** [Ano21-116]. **Reborn** [Ano21-127]. **receive** [Bra21]. **Receiver** [Sch22b, Ver24]. **Reckoning** [Ano21-113]. **reconfigurable** [Pou22]. **Reconnaissance** [Zor22e]. **Reconstruction** [Abb23]. **record** [Hec20]. **record-breaking** [Hec20]. **Recorder** [Cas25d]. **Records** [Cha25b, Dum20]. **Recovers** [WA24]. **recovery** [Gar20]. **Recruit** [Ano20-93]. **recruiters** [Per20f]. **recruiting** [Hsu20a, Per20f]. **Recruitment** [Ano21-135]. **Rectangle** [Poo24b]. **recyclables** [Cal22]. **Recycling** [Gol22a, Kum21]. **Red** [Mar21d, Ros25, Ano21-136]. **redefine** [Per21a]. **reduce** [Dol23b, Gar20]. **Reducing** [Ham21]. **ReefWorks** [Der22h]. **reengineered** [Pan20]. **reexamine** [Hsu20a]. **Reflections** [Luc20b, Ano20-48]. **Reflects** [Ack24a]. **regardless** [Per20b]. **Region** [Zee25]. **Regularly** [Lev21]. **regulate** [SG22]. **Regulating** [Gol23a]. **Regulation** [Mar23k]. **Regulator** [Bow21]. **Rehaan** [Gen25b]. **Reich** [Shi22]. **reinvent** [AG20]. **Reinvented** [SM24]. **Reinventing** [Gol24i]. **Reinvention** [Fis24]. **Relay** [BD22]. **relegated** [Smi22g]. **Reliability** [Koz24d]. **Reliable** [WPBS23]. **rely** [Per20g]. **Remade** [Pot24, Cas20h]. **remain** [Pat20]. **remakes** [DHOW20]. **Remembering** [Per20o, Zor24b]. **Remind** [Bog25]. **Removal** [Gib25]. **renaissance** [Fai21]. **Renamed** [Smi21f]. **rendition**

[WB21]. **Renewable** [KH24, Smi22g, Fai23b]. **Repair** [Smi22l]. **Repairing** [SS25]. **Repairs** [Pot24]. **Report** [Ano21-143]. **Reports** [Der22f]. **reproduction** [LDO22]. **Require** [Fis24, Ano20i, Ham21]. **Required** [Smi22b]. **Requires** [Ash23]. **Rerecich** [Der22f]. **Reroute** [Bou21]. **Research** [Ano21-56, Der22c, McD25, Ham20a, Koz23d]. **Researchers** [Jaf22, Per20e, Ros22e, SSJ+25, Scu20b, WAC+20]. **reset** [And20g]. **Reshaping** [Smi25b]. **Resignation** [Per21c]. **Resistance** [Mar25d]. **Resolution** [Coo22]. **Resources** [Gol25c]. **Responds** [Smi22l]. **response** [NS20]. **responsibility** [Cha20a]. **Restore** [Bou21]. **Restoring** [Mos22]. **Rests** [Fis24]. **Results** [Dol23a, Der22c, Per20e]. **resurfaced** [Cha20a]. **Resurgence** [Ros23b]. **retackles** [Koz24d]. **Rethinking** [Web25]. **Retinal** [SH22b]. **retires** [Zor23b]. **Retro** [Cas22a, Sch23b]. **retrospective** [Smi20f]. **Return** [Koz23d, Kum20]. **Returns** [Ros21, TGLM21]. **Reusable** [Bro22a]. **Revamping** [Jon22d]. **Revealed** [Ack23a]. **Revealing** [Cho21]. **Reveals** [Gol25d]. **revenue** [Der22c]. **reverse** [Cas20h]. **Reversible** [GPUB25, MWS+25]. **review** [Raf20a]. **Revisiting** [BCM+19]. **Revival** [Bla25]. **Revives** [Cly24]. **Revolution** [Usk21, Fun20]. **Revolutionize** [AZPC22]. **Revolutionized** [Ama25, Per20o]. **revolutions** [CFPP22]. **rewards** [Ano20-93]. **RF** [Zor20]. **Rice** [Mar24f]. **Rich** [CP21, Jon22e, Sch22c]. **Richard** [Zor24a]. **Riddled** [Bau24]. **ride** [Per20l, Pot20a]. **Right** [Smi22l, Hut20, Ong20, Zor22d]. **Ripples** [Zor22c]. **RISC** [Gen24b, Szk21]. **RISC-V** [Gen24b, Szk21]. **rise** [Ras20b]. **Rises** [Per21c]. **rising** [Smi22i]. **Risk** [Gol25h, Zee25, Cha20a]. **Risks** [Mar23k]. **Risky** [Ros23a]. **Rival** [Shi22, Fou22, Pal22]. **Rivers** [Jon22g]. **Road** [Bro22a, Dum22, HF22, Mur23, And20g, Goo23a, MMP22]. **roads** [Ack21a]. **Roars** [Fai24a]. **Roasted** [Ano22-57]. **Robocalls** [Koz24a]. **Robocars** [RHBM22]. **RoboCup** [Gol23c, Jon22f]. **Robot** [Ack21a, Ack22b, Ack23b, Ack24c, Bro23c, Chi21, Coh22, GK24, Mar21a, Mar25f, AG20, Fru20, GA20, Gui20, HP20, Lev20]. **Robotic** [Bea22, Jon24c, Usk21]. **roboticist** [Gen23b]. **Roboticists** [FBMI23, Gol23g, Sto23]. **Robotics** [Ack24a, Bea22, SSJ+25, Bar20]. **Robots** [Ack21b, Ack22a, Ack22c, Ack22d, Ack23a, Ack23b, Ack25a, Ano21-144, Ano21-145, Ano22-131, Ano22-132, Bla25, Gol23c, Gol23g, Gol25a, GK24, LH24, OSK25, Pan20, Sto23, WPBS23, Ack24d, Ano20-68, Ano20-91, Ano20-103, Ano20-104, Bar20, Gol23c]. **Robust** [Kuh24]. **Rock** [Col25, Gal20a]. **Rock-Star** [Col25]. **Rocket** [Bro22a, Per20f]. **rockets** [Fou22]. **Roel** [Wal25a]. **Rogue** [Pow24]. **role** [Cha20a]. **Roles** [Rak25c]. **Roll** [RZ21, Sch23c]. **Rollout** [Smi22j]. **rollovers** [Per22a]. **Roomba** [Jon22g, Mar20g]. **rooms** [Ano20-68]. **Roots** [Gen24b]. **Ropes** [Kin25]. **Rose** [Cas24a]. **Rosedale** [Gen22]. **Roses** [Str22b]. **Ross** [Zor23b]. **Round** [Mar21d]. **Routers** [Mit20]. **Rover** [Ulr22, Pot20a, Mar25e]. **Royal** [Gen23c]. **Rubin** [Ack25b]. **Rule** [Smi25a]. **rules** [AFH22, Smi20g]. **Run** [Svr23, Cha20b, Gen24h]. **Runaway** [And25c]. **Running** [Car24]. **Runs** [Jon22c, Reg23]. **Russia** [Cla24]. **Russian** [Usk21]. **Ruzena** [Ack24a]. **Ryckaert** [Moo24b].

S [Gol23f, Gol24c, Moo25b]. **S.** [Der21g]. **Sabotage** [Zee25]. **Sackbut** [Mar24a]. **Safe** [ACDG21, Gol25g, RC25]. **safeguard** [RS23, SMD20]. **Safer** [Gol25a]. **Safety** [Der21h]. **Sahara** [Zac25]. **Saharan** [Gol25c]. **salad** [Gui20]. **salaries** [Per21c].

salary [Per22c]. **sale** [SG22]. **salivate** [Koz21a]. **salmon** [Nor20b]. **Sam** [Cas20b, Moo23a]. **Same** [Hec20, SSB25, Bra21]. **Samsung** [Moo22b, Pal22]. **Samueli** [Per25]. **Sandia** [Der21d]. **Sandoval** [Der22d]. **Sandoval-Pichardo** [Der22d]. **Sapphire** [Lev21]. **Satellite** [Ama25, Cas25a, Jag22, Koz21a, Zor22e, Lau23b, Mar20h, Raf20b]. **Satellite-Imaging** [Jag22]. **Satellites** [BD22, Koz20a, Mit20, Red20]. **Satiate** [Gol24h]. **Sausage** [Zor24a]. **Savant** [Has20b]. **Save** [Bow21, BSAH21, Car24, CPBZ21, GP22, Mos25b, Moo20b, Ong20, Per20c]. **Saved** [Wal25a]. **Saving** [GPUB25, Gol25g, Moo24d]. **Savings** [Smi21j]. **Saw** [Gol24d]. **Say** [ACDG21, RC25, AS22, Gal21b]. **Says** [Str22a, DM20]. **Scale** [And25c, Ano25-101, Bog25, Der21h, Gib25, Gol23h, Gol25i, Smi25b, TB21, CFPP22, VH20]. **Scaling** [Gol24h]. **Scan** [Gen23e]. **Scandal** [Pau21]. **scanner** [GAG20]. **Scanning** [AS22, Pri21]. **Scans** [Pep25]. **Scenarios** [BSG22]. **Schematics** [Bro23c]. **Scheme** [GPUB25, CD21]. **Schneider** [Gol23e]. **Schrödinger** [Ros22e]. **Sci** [Gol24j, Mie24, Gol24a]. **Sci-Fi** [Gol24j, Mie24, Gol24a]. **Science** [Der21g, Gen24c, Gen25c, Gen25b, JPWB21, MJH$^+$21, SAS$^+$21, Zim21, CKG$^+$21]. **Scientific** [CP21, Dum20, Cas20h]. **Scientist** [Gol23e, Per20o]. **scientists** [NS20]. **Scientology** [Mar24i]. **Scope** [Har22]. **Scotland** [Fai24a]. **Scott** [Rao24]. **SCR** [Bre20]. **SCR-536** [Bre20]. **Scramble** [Baj24, Per20e, Ulr20c]. **scrambles** [Fai20a]. **scrap** [Smi22g]. **Scratch** [Moo24a]. **screen** [Som21]. **Screens** [Poo24b]. **Scritching** [Ack25a]. **SDR** [Sch22b, Ver24]. **Sea** [Cla24, MD23, Sch22c, Zee25]. **Seabed** [Zor22d]. **Search** [MMM24, Sch22d]. **searches** [Ano20-86]. **Second** [Cas22c, Gen22, McD25, SH22b, RHBM22, Sch22e]. **Secret** [Cop25, LA22]. **Secrets** [Gol23e, Tei23, Der21d, RS23]. **sector** [Gol24e]. **secure** [Pes20b, SMD20]. **Secures** [Gen24b]. **Security** [Coo22, Gen24b, Lau24b, RS23, Lew20, Ras20b]. **See** [Cla24, Dol23a, Gol23d, Kuh24, Poo24b, RHBM22, Sch25b, PN20, Pes21a, Sch21b]. **See-Through** [Poo24b]. **Seeing** [Baj24, Tei23, GAG20]. **Seek** [Baj24]. **seeks** [Raf20b]. **Seen** [Sch21b]. **segregation** [Moo20c]. **Seismometer** [Sch23a, Sch25a]. **Self** [Bra21, Mar23k, Str25b, WPBS23, And20g, LG20, Pan20, Smi23a]. **Self-Balancing** [Str25b]. **Self-Driving** [Mar23k, WPBS23, And20g, LG20, Pan20, Smi23a]. **Self-interference** [Bra21]. **Selfie** [Ano21-136]. **Semiconductor** [Gob23, Jes21, Kim22, Moo24e, NYI24, Pat23a]. **Semiconductors** [Gen25c, Moo24e]. **Send** [Zee25]. **Sensation** [Bou21]. **Sense** [Ano20-94, Pat20]. **Senses** [KK21, Dut22, Pes20f]. **sensing** [CFPP22]. **sensitive** [Har22, SMD20]. **Sensor** [Ano21-138, Ano21-137, CP21, CFPP22, Der21e, Per22a, Rab22, Ano20-91]. **Sensor-Rich** [CP21]. **sensoribility** [Ano20-94]. **Sensors** [Baj24, Bla25, CFPP22, Fit21, Gen25c, WPBS23, Ano20-79, Gen24h, Lee20, PK20, Per21a, WB21]. **sequestering** [Pat24a]. **Serious** [Gol23a, Fai23c]. **Service** [Lau23b]. **Set** [Der21e, Gen24c, Zee25, Has20b]. **Seth** [Koz24b]. **Seven** [Ano21-116]. **several** [RHBM22]. **Severestorms** [FOSMD23]. **Sews** [Jor21]. **Shafts** [Sch25b]. **Shakes** [Sch23a]. **Shakespearean** [LCBH20]. **Shane** [Ano23a]. **Shape** [Gol25f]. **Shaped** [PRR23]. **Shaping** [Zor22c]. **Share** [Smi25a]. **shares** [Goo23a]. **sharing** [Per20l, PSD22]. **Sheer** [Abb23]. **Shelf** [Cly24]. **Shelves** [Nor20b]. **Shield** [Fai24b, Gol24b]. **Shift** [Gen24c, And20c]. **shifts** [And20g]. **ship** [And20a]. **Shipping**

[Ano21-139, Pat24b]. **ships** [Gal21a, Pat24b]. **Shipt** [Cal24]. **Shoebox** [HH24]. **Short** [Bea22, Fru20]. **Shortage** [Mos25b, Per20e]. **Shortcut** [BBFS22]. **Shot** [Jon22h, Ros23b, Wal20a]. **Should** [Cas22c, McD25, Pes21b, Ros23b, LG20, Per20h, Str24a]. **Shouldn't** [Fit21]. **show** [Pat20, Pat22, Str20b]. **Showcase** [Gol25i]. **Shows** [Moo24e, WB21]. **Shrink** [HH24, Rak24b]. **Side** [Bro22d, SSJ+25]. **Sight** [SH22b, RHBM22]. **sights** [Has20b]. **Signals** [Bou21, Har21]. **significantly** [Fun20]. **Siim** [Str25a]. **Sikkut** [Str25a]. **Silence** [JKW25]. **Silica** [Moo25c]. **Silicon** [BVKR23, Gen24m, MZR21, Fai24b, Gol24b, Per20m, She24]. **Simple** [Cas23c, AG20, Sch20b]. **Simpler** [RC25, Cly22]. **simplified** [Per22b]. **simplify** [Cas20f]. **Simulation** [Ano21-124, Ano21-140, Ano21-141, Ano20t, Ano21-134]. **Simulator** [Smi23b]. **Sinclair** [Cas20h]. **sing** [Cas20b]. **Singh** [Der23a]. **Singhania** [Gen24d]. **Single** [Per25, Cas20a]. **Single-Chip** [Per25]. **sirens** [Ros20b]. **Sister** [MZR21]. **six** [Scu20b]. **Sizzling** [Col25]. **Skeptic** [Bar24]. **Skeptical** [Cha23]. **sketch** [Per23]. **Skies** [Bog25, JAR24, Ros22a]. **Skill** [Der21e]. **Skills** [Ano20-95, Bea22, Gol22b]. **Skin** [Som21, ZL20b]. **Skinny** [Smi21d]. **Sky** [Bar24, Sch23c, Zor22e]. **Skydiver** [Jor21]. **Slam** [Ros22c]. **slash** [Gal21a, Gal21b]. **Sleuths** [Ano21-133]. **Slow** [Mar25h, Smi22j, Str24a, LG20]. **Slowed** [Smi21k]. **SLS** [Fou22]. **sludge** [Gal20b]. **Small** [Cha21b, Deg24, Gen25d, Gol25i, Koz21a, Str22a, Zor22b, Koz20a, LG20, Nor20a, Pat24b, Per20f]. **smaller** [RK22]. **Smallest** [Der22d]. **Smart** [Bor24, Fit21, Hsu20c, Ano20-96, Ano20-97, GA20, Ros20b]. **Smart-Home** [Bor24]. **Smartly** [CP21]. **Smartphone** [Moo25c, Sla21, Som21]. **Smartphones** [Ano20-96, Ano20-97, ZL20b]. **smashes** [Moo20e]. **Smashing** [SC23].

Smell [Str22b]. **Smelling** [Fit21]. **Smoke** [Fit21]. **Smoothly** [Gen24f]. **SMS** [Tho21a]. **Snapshots** [PK20]. **Soar** [NG23]. **Socially** [Ano21-142]. **Soft** [OSK25]. **Software** [Cab24, Cas25b, Hub24, Hus24, Kas23, Pes21b, VA23, Zdr25, Ano21-29, Ano21-30, Bar20, Cas22b, Cha20b, Hsu20a, Lee20]. **Software-Defined** [Kas23, Cas22b, Lee20]. **Software-development** [Zdr25]. **Solar** [Ano21-124, Fai21, Gen25h, Gol24a, Jon23f, Pat24a, SC23, Sch22a, WA24, Fai20b, JJS22, LSM23]. **Solar-Energy** [Gen25h]. **Solar-powered** [Pat24a]. **Solution** [Gal21a, McD25, Pou22, Zor22d]. **solutions** [Has20a]. **Solve** [Jon23i, NG23, DM20, Gol22a, Per20n, Sch21a]. **Some** [Ake23, Cas25b, Der21g, Smi21k, ZL20b, Ano20-87]. **someday** [Pat20]. **someone** [Ano21-27, Ano22-55]. **Somerton** [Abb23]. **Soon** [Bro21, Fou21, HS23]. **Soonish** [Zor23c]. **sort** [Cal22]. **Sound** [Mar24l, Arm20, LDO22, Ros21]. **Sounds** [Lew23, Ros20b]. **Source** [Gen24b, Ver24, Smi22g]. **South** [Kim22, LSM23]. **Space** [AF23, Bar24, CP21, Coo21, Der21f, Fou22, Gol24a, Jon23j, Sch21b, Sch22a, BMRW20, Jon24a, Mit20, Pri21]. **Space-based** [Gol24a]. **Spacecraft** [CP21, Der21e, Zor22c, Red20]. **Spacewalk** [Pot24]. **Spafford** [Der23c]. **Span** [Zee25]. **spawned** [Cro20]. **Spawning** [Pat23a]. **speare** [LCBH20]. **Special** [Ano21-143, Mar20h]. **Spectacular** [Smi22m]. **Spectators** [Bea22]. **Spectral** [Cha20a, Has20a, Has20b, Luc20a, Per20b, Per20l, Per20n, Per20e, Per20h, Per20o, Pre20]. **Spectrometer** [Coo22]. **Spectroscopy** [Ros22b]. **Spectrum** [Laz22, Bar20, Ano20s, Cas22a, Gol21, HPK22, SM24, Zor23b, Zor24b]. **Speed** [Ack23c, Gol25h, Moo23b, Moo24e, Sch21a, Zor25b, Cal22, Moo20e, Ros20a]. **Speeds** [Gen24d, Hec20]. **Spent** [WA24, Kum21].

Spidey [Pes20f]. **spies** [Luc20b]. **Spin** [SJY25, Lau24b]. **Spin-Off** [SJY25]. **spin-offs** [Lau24b]. **Spinning** [Gen24f]. **sponsored** [Sto20]. **Spoof** [Har21]. **Spoofing** [And25a]. **Spooky** [Jaf22]. **Spot** [Cas22b, GA20, MJS20, Per20a]. **Spray** [Pep25, And20b]. **Spraying** [Gen24e]. **Spread** [Moo25b, Smi22j]. **sprung** [Gen24b]. **Spy** [Ama25, Mar21a, Pau21]. **SQL** [Ano20-95, Cas22c]. **Square** [Gen25b, Per22b]. **squares** [Nor20a]. **Squash** [Sca22]. **Squeezing** [Gen24c]. **St.** [Koz21a]. **Staff** [Ano23-135]. **Staggering** [Cas22g, Gol23h]. **Stan** [Jon25]. **Standard** [Smi25a, Ros22c]. **stands** [Koz21a]. **Star** [Col25, Gol23d, Per20g]. **Stars** [Cas25c, SSB25]. **Start** [Gen24a, Moo24a, Ros22a, LG20]. **Started** [Gol24a]. **Starts** [Eis23]. **Startup** [Der22g, GPUB25, Moo24e, WA24, Ano20-100, DM20, Gen24k, Ros22d, Str23]. **Startups** [AZPC22, Bla25, Cly20, Moo21]. **State** [Fra21, MS22, Sto20]. **state-sponsored** [Sto20]. **Stave** [Cox25]. **Stay** [Per20g]. **Stay-at-home** [Per20g]. **Stayed** [Mar25e]. **Steady** [Mar25h]. **Steal** [Baj22]. **Stealth** [Baj22, Baj24]. **Steel** [NYI24]. **Steep** [Smi22c]. **Stefany** [Cas22d]. **Stein** [Gen25a]. **Stellarator** [Cly24]. **Step** [Zor22b, Raf20b]. **Steps** [Cha25a]. **Steve** [Lau25a]. **Stick** [Kir25]. **Stick-on** [Kir25]. **Still** [Gol24a, Gol24i, Hub24, Sch25a, Smi21d, Smi22a, Smi25a, Per20b, Smi22g, Smi22k, Smi23b]. **still-mighty** [Smi22g]. **Stimulation** [CZ25, Dol23a, Dol23b]. **Stirs** [Sch22c]. **stood** [Arm20]. **Stop** [Koz24a]. **Stopping** [Cha25a]. **Storage** [Car24, Moo21, Dum22, Nor20a, Pat20]. **Store** [RZ21, Scu20a]. **Storing** [Nor20a]. **Storm** [Gol24b]. **Story** [Ano20g, Ano20r, Ano20q, Ano20-69, Ano20-47, Ano20-48, Ano20-81, Ano20-92, Ano20s, Ano20-80, Ano20-102, Ano21-49, Ano21-50, Ano21-47, Ano21-48, Ano21-62, Aro24, Gol25j, Gol25i, Smi21l]. **Storyteller** [Gol24j]. **straddles** [CD21]. **Strange** [GO22, Moo25c, Mul24, Smi21m, Fru20]. **strategies** [Fou21, Pat22]. **Strategists** [Cla24]. **Strategy** [Gol24b, Koz20c]. **street** [Ros20b, Wea20]. **strength** [And20e]. **Stress** [Kir25]. **stretch** [ZL20b, Ack22b]. **stretchable** [Som21]. **Strikes** [Cas23c, Cha20a]. **Structures** [BF24, CP21]. **Student** [Ano25-102]. **students** [Bar20, Sac20]. **Studio** [Smi21l]. **Study** [Ano21-140, Ano21-141, GO22]. **Stuff** [Gol25g, Cas22b]. **Stunning** [Gol24g]. **stutters** [Per20j]. **Sub** [Gol25c, Zac25]. **Sub-Sahara** [Zac25]. **Sub-Saharan** [Gol25c]. **Submarine** [Baj22, Baj24]. **Subspace** [Tow21]. **substantial** [Jaf22]. **Subterranean** [Ack22c]. **Success** [Bro22a, Goo23a]. **Sucking** [Gal21b]. **Sucks** [Hus24]. **Suddenly** [Cal24]. **Sun** [Ano22-57]. **sunk** [LSM23]. **Sunless** [Pow24]. **Sunny** [Ano21-55, Tow21]. **Superbatteries** [Smi22k]. **Supercharged** [Jes21]. **Supercharges** [SC23]. **Supercold** [Lev21]. **Supercollider** [Gar25]. **Supercomputer** [MCG24, Sch22e]. **Supercomputing** [Dum23, And20i]. **superconducting** [Cly23]. **Superconductors** [HH24]. **superheroes** [Gen23b]. **Superhuman** [Ack23c, Cal22]. **Superior** [Wat24]. **Supernovas** [SSB25]. **Superpower** [Kim22]. **Supersonic** [Ros21, Sch21e]. **supplies** [Ano20-68]. **Supply** [AFH22, Pes21b, Fai20a, LSM23, RG20, Sch20c]. **Support** [Gen25c]. **sure** [Hig20e]. **surfaces** [Pou22]. **Surgeons** [Bea22, OSK25]. **Surgery** [Bea22]. **Surgical** [Bea22, OSK25]. **Suri** [Gen24h]. **Surpass** [Bro21]. **Surprises** [Cas23c, Sca22]. **Surprisingly** [Cho21, Sar20]. **Surveillance** [Lau24b, Pes21a]. **Survey** [Ack25b, Per22c]. **Surviving** [Mar25a]. **Survivors** [Str22b]. **Susana** [Gen24j]. **Sushama** [Gen23d]. **Sustain** [Smi21e]. **Sustainable** [SJY25].

Suture [OSK25]. **SUV** [Per20l, Per22a, Smi21j]. **SUVs** [Smi21j]. **swabbed** [Ano20-68]. **Swallowed** [CG23]. **Swarm** [Cas25c, Jon24c]. **sweat** [MW20]. **Swimmer** [Mar21a]. **Swiss** [Lau24a]. **Switch** [SG24, Jes21, Zor20]. **switches** [Zor20]. **Synchron** [Wal24b]. **System** [Ano21-124, CZ25, Cop25, Fou22, Kas23, Kin25, Ros22a, Moo23b, NG23, PSD22]. **System-Level** [Kas23]. **Systemic** [Gol25h, Moo20c]. **Systems** [CD21, OSK25, Rao24, Ano20g, Ano20-90, Cal22, Cha20b, CHM21, Der21d, Hsu20a, Pat24a, Has20b].

T [Sch20b]. **T-coil-equipped** [Sch20b]. **Table** [Ano20-98, Ano21-113]. **Tackle** [Zor25b, Per20e]. **Tackling** [Chi21, Ros25]. **Tactics** [Cla24]. **Tags** [TB21]. **Taiwan** [Cla24, Fai24b, Gol24b]. **Take** [Ano22-56, Bar24, Bor24, Cas25c, Cho23, Gen24a, Gol24h, Jon23b, MZR21, Per20h, Sch21e, Sch24b, WAC+20, Zac25, Ano20-80, DM20, Fun20, Jag22]. **takeoff** [DM20]. **Takes** [Cal22, Zdr25, Sto20, Str20a, Wal20a]. **Taking** [Mar23j, RK22]. **Talkie** [Bre20]. **Talking** [Per24a, CD21]. **Tan** [Str23]. **Tandy** [Cas22f]. **Tanghal** [Der23b]. **tanks** [Gal20b]. **Tap** [Fai23a]. **tape** [Cly23]. **Tapped** [FBMI23]. **Tardigrade** [Ros22e]. **Targets** [CZ25]. **Tasks** [Zor25b, AG20]. **Taste** [Ano24-145]. **Tattoo** [Kir25]. **tattoos** [Scu20a]. **Taught** [Kol25, ALRW21, SZ20]. **Taxi** [AZPC22]. **Taxis** [NG23]. **Taylor** [Koz23b]. **Teach** [Kin25, Wea20]. **teacher** [Bar20]. **Team** [Ack21b, Bou20]. **Teams** [Per24a]. **Tech** [And25c, Ano21-114, Ano21-143, Ano22-129, Ano23-136, Ano24-146, Bor24, Cas24d, Cha25a, Cha23, Cho23, Dum22, Fis24, Gen24c, Gol24c, Gol25f, Lau24a, McD25, Moo24d, MWS+25, Mos25b, MD23, Per21c, RZ21, Shi22, SM24, Szk21, Wat24, You22, And20h, CFPP22, Der22h, Gar20, Has20a, HS23, Koz24d, McC20, Ong20, Per20a, Per20b, Per20m, Per20d, Per20g, Per20i, Raf20b, Rak24a, Rak25c, Ras20b, Sac20, Smi23a, SZ20, Ulr20a, Ulr20c, YS20]. **Technical** [Gen23a]. **Technicolor** [HF22]. **Technique** [CZ25]. **Techniques** [Cox25]. **Technological** [Gol25f]. **Technologies** [Gol23d, Gol24d, Pep25, LG20, Pal22]. **technologists** [BS22]. **Technology** [Der23d, JPWB21, Jon23a, LW24, MJH+21, SAS+21, Ano20-100, CKG+21, Gol22d, Gol22e, Gol22f, Hsu20b, Lee20, Smi22i]. **technophobes** [Per20g]. **teenager** [Sha23]. **Tekla** [Gol23f, Gol24c]. **telecom** [Koz21a]. **Telepresence** [Ack23a]. **telescope** [Bou20, HPK22, Pot24, Sch21b]. **television** [Mie22]. **Tell** [Fra21, Gol25j, Mar23k, Hut21]. **Tells** [Gol22f]. **temperature** [Cly23]. **Term** [Gol25f, And20d]. **Terminators** [BSG22]. **Tesla** [Har22, Ulr22]. **Tesler** [Per20o]. **Test** [Dum22, SS25, Gar20, Koz20c, Koz23d, Per20e, Ros21, Ros22d, YS20]. **Testing** [YS20, Der22h, Per20a]. **Tests** [Har21, Der22f, Per20a, YS20]. **Texas** [Gal21b, NG23]. **text** [Lau23b]. **Textiles** [CP21]. **Texting** [Tho21a]. **thank** [Per20o]. **Their** [Ack25a, Cal24, Gol25a, Gol25j, Gal21a, Gol23d, NS20, Per20b]. **Them** [BVKR23, Gol23g, Mar23j, Pow24, Ack23b, And20h, Bla25, Sch22b]. **Themselves** [Ros22c, Ack21a, Koz20b]. **theory** [SHD20, ZL20a]. **therapy** [HVW20]. **There** [Gol25e, Pou22, Pes20a, Str21, PK20]. **thermal** [Zel20]. **thermodynamics** [AF23]. **These** [Arm20, Rak25c, WC23]. **they'll** [Ano20-68]. **they're** [Hsu20a]. **thick** [Rad20]. **Thin** [Gob23]. **thing** [LCBH20]. **Things** [BVKR23, MWS+25, Pes21b, Str24a]. **Thinks** [Cha23]. **Third** [FBMI23, Per20c, Shi22]. **Thomas** [Der21d]. **Thompson** [Jon25]. **thousand** [Cas20b]. **Thousands** [Smi21e, Jes21, Kum21]. **Threat** [Cha25a]. **threatened** [Sha23]. **Threatens** [And25a]. **threats** [Der23c].

Three [Cha25a, Fou21, Moo20b, Moo25c]. **Threshold** [BS22]. **throats** [Ano20-68]. **Thrones** [Smi24]. **Throughout** [Zdr25, Moo20c]. **Throw** [MW20]. **thrust** [Rae20]. **Thumb** [Gen25d]. **Thwart** [TB21]. **ticket** [Per20j]. **Ticks** [Lev21]. **Time** [Bow21, Cas25e, Cox25, Gol23a, Sch23c, Ano20-68, Per20m, Pes20e, Zor22d, Dum20]. **Time-Lapse** [Sch23c]. **Timekeeper** [Lev21]. **Timeline** [Cas22e]. **Times** [Cor21b]. **Timing** [Wat24, Raf20a]. **Tinier** [Van23]. **Tiny** [Gob23, NYI24, SSB25, WPBS23, MS22, Per22a]. **Tips** [Ash23, Per24a]. **Tissue** [OSK25, SMD20]. **Today** [And25c, Bea22, MSS21, PRR23, Rao24, Ano20-78, Per20o]. **Todd** [And25a, Moo25a]. **together** [Bou20, Pal22]. **Tokyo** [Mar23j]. **toll** [SB22a]. **Tomorrow** [And25b, Bea22, Rao24, Hut20]. **Tones** [Tho21b]. **Tonnnes** [Fis24]. **tons** [Kum21]. **Too** [Gol25h, Hut20, Smi21d]. **Took** [HF22, Per20c]. **Tool** [Cor21b, Cro20, Gen24k, Hsu20a, Tem20]. **Tools** [RZ21, VA23, Gol22b]. **Top** [Ano21-143, Ano22-129, Ano23-136, Ano24-146, Cas21d, CG23, Cop25, Gen24g, Gol25d, MWS+25, Ulr20c, Ano20-95, Cas20i]. **top-again** [Cas20i]. **Top-Secret** [Cop25]. **topological** [Cho20]. **Touch** [Cas25e, Gan24]. **Touchscreen** [Mie24, Rak25b]. **Tough** [Smi21n]. **tour** [WAC+20]. **toured** [Fru20]. **Towers** [And25b]. **town** [PK20]. **Toyota** [Ack22a]. **Tracing** [Ano21-124, Hsu20b, Pes21a]. **Track** [Gen24l]. **Tracker** [Per24b, Sla21]. **Tracking** [Rab22]. **Tracks** [SG24]. **trade** [LA22]. **traditional** [Gal20a]. **Traffic** [Tow21, Der22b, NG23, Raf20a]. **Trail** [Gol24c]. **Train** [Chi21]. **Trainees** [Bea22]. **Training** [Bea22]. **Trains** [Jon25]. **transactions** [Per22b]. **Transform** [Ano20-73, Ano21-122, Bai25, Gob23, Mos25b, Ano20-72, Cly23]. **transformation** [Fai24a]. **Transformed** [Bro23a].

Transformer [Fai23c]. **Transformers** [Mos25b]. **Transforming** [Ano21-56]. **Transgenic** [Nor20b]. **Transistor** [Ano22-130, Cas22e, LW24, Mar24g, MS22, Moo22c, Zor22a]. **Transistors** [Gol22c, Van23, Per20c, RK22, Rad20, Rak24a]. **Transition** [Cha23, Col25, Gol23h, Moo24e, Gol22f, JJS22]. **transmission** [Fai24a]. **transmit** [Bra21, Sch20b]. **Transparent** [Baj22, Smi22b, HVW20]. **transport** [MMP22, Ros22d]. **Transportation** [ACDG21, AZPC22, Der22a, Gol24e, Per20l]. **Trap** [ROK24, Pes20c]. **Trashed** [WA24]. **Travel** [Ros21]. **Travels** [Gol24f]. **treasure** [Sch22d]. **treated** [Arm20]. **treating** [Ano20-68]. **treatment** [And20b, And20e]. **trees** [PN20]. **Trend** [Ulr21]. **Trick** [Van23]. **tricky** [Cas22f]. **tries** [BBS23]. **triggering** [Fai21]. **Trillion** [LW24, Pow24]. **Trip** [Moo25c, Smi21m]. **Trippe** [Bro22b]. **trips** [WAC+20]. **Triumphs** [Ano20-99]. **trojan** [LA22]. **Troynikov** [Koz23a]. **Trucks** [Ack21a]. **truly** [LDO22]. **Try** [Cas25a, CZG25, Pri21]. **Trying** [Gar25]. **Tube** [Shi22, Ano20-81, Cas20e]. **Tummala** [Moo24a]. **tunes** [And20f]. **tuning** [Per22a]. **tunnels** [Cas22e]. **Turbine** [Jon23k, Wal25a]. **Turbocharge** [Boy24]. **Turbulent** [Str21]. **Turf** [Laz22]. **Turing** [Cas21c, Cop25, Reg23]. **Turn** [Smi22h, Der22c, Gol23d, Per20g, SMD20]. **Turned** [Smi21l]. **Turning** [Ano20-100, Bar20, Tho21b, Ano20-99]. **Turns** [Bea22, SM24, Rae20]. **tutor** [BBS23]. **TV** [Cas22b, Mar24h, Mar25b, Mie22, Pal22, Poo24b]. **TVs** [Poo24b]. **tweet** [Cas20a]. **Twilight** [Pau21]. **twist** [Mie22]. **Two** [Ake23, And20d, Ano25-102, CD21, GP22, HF22, Mar24l, Per20a, SB22a, Zor20]. **type** [Mie22]. **types** [Dol23b].

U.S. [Ack21b, And20d, Gol24b, Moo20c, Moo24e, Moo25b, Nor20b, Ong20, Pat23a, Per22c, Raf20b]. **ubiquitous** [MS22]. **UCDAVIS** [Ano20-101]. **UI** [Gen23d]. **Ukraine** [Cla24, Bau24]. **Ultimate** [Cas22e, Ver24, Fou22]. **Ultium** [Ulr20b]. **Ultra** [Deg24, BSG22]. **ultra-deepfakes** [BSG22]. **ultrafast** [Koz20c]. **Ultrahigh** [Ver24]. **Ultralight** [Cri20, Zor23c]. **Ultrasound** [CZ25, Deg24]. **ultraviolet** [And20h]. **Unappreciated** [Cab24]. **Uncertain** [Str21]. **Uncovering** [GH23]. **underappreciated** [RG20]. **Underestimate** [Zac25]. **Underground** [Ack22c, Ack22d]. **Undermine** [Baj22]. **undermined** [Moo20c]. **Undersea** [Lau25b, Zee25]. **Understand** [Gar25, HVW20, Pre20, Wea20, SG24]. **Underwater** [CZG25, MWS+25]. **Undo** [AL25]. **unfairly** [Smi22g]. **unfortunately** [Smi22i]. **unhackable** [Moo24c]. **Unicorn** [She24]. **Unilever** [Gen24i]. **Unique** [Gol25d]. **Universal** [Gen23e, VH20]. **Universe** [Ack25b, Gen22, Gol25j, HPK22, Jon23i]. **universities** [Cly20]. **University** [Ano20-101, Pat23a, Der22c]. **unleash** [Gol22b]. **Unlikely** [Bla25, Mar24f]. **Unsustainable** [TGLM21]. **until** [Cha20b, Fru20]. **Unused** [FBMI23]. **Unveil** [Gol23e]. **Unveiling** [Ack25b]. **unveils** [Per20l]. **up-and-down** [Rae20]. **Upcycling** [Cas22f]. **Upgrades** [Pot24]. **Upon** [Sch22e]. **Ups** [Moo21]. **Upside** [Bro22c]. **Upstarts** [Smi24]. **uranium** [Mar20e]. **urban** [Per20l]. **USA** [Per22c]. **Use** [SHP24a, Sch23c, Smi21j, Wal25b, HH24, Pou22, Ras20b, Szk21, YS20]. **use-anywhere** [YS20]. **used** [Hsu20a]. **Useful** [MCG24]. **user** [Der20, Gol22e, Per20o]. **Users** [Web25, Hsu20a]. **uses** [Cho20, Zor20]. **Usher** [Wal21, Ros21]. **Using** [LH24, Pre20, ROK24, RHBM22, Zdr25, Cas20e, Dum22, Koz23b, Per20f, Per20e]. **usual** [Pes20d]. **Utrecht** [Dum22]. **UV** [And20h, Cas24e]. **UV-K5** [Cas24e].

V [Gen24b, Szk21]. **V2G** [Gol22f]. **Vaccinate** [Gib21]. **vaccine** [Scu20a, Wal20a]. **Vaccines** [Wal21, Wal22]. **Vacuum** [Shi22, Arm20]. **Valley** [Gol24c, Per20m, She24]. **Valuable** [WA24, Tem20]. **value** [Fou22, Per20h]. **Vanns** [Gen23a]. **Variants** [Wal22]. **variety** [Pat22]. **Varkey** [Sac20]. **Vast** [Der22d, Fai20b]. **Vastly** [Wat24]. **VC** [Der22a, Der23b]. **vector** [Cas20e]. **vector-graphics** [Cas20e]. **Vegan** [Smi22h]. **Vehicle** [Dum22, Eis23, Gol22f, MMP22, Ong20]. **Vehicle-to-Grid** [Dum22, Eis23, Gol22f]. **Vehicles** [Der23a, Ros23a, Smi21j, And20c, Ano20i, LG20, Ong20, Red20, Ulr20b, Wea20]. **Venus** [Ano24-145, MZR21]. **Vera** [Ack25b]. **verse** [LCBH20]. **Versions** [Bow21]. **vertical** [DM20]. **vertical-takeoff** [DM20]. **very** [GA20]. **vessel** [Wal24b]. **VHF** [Tho21a]. **via** [Lau23b, Wal24b]. **Vibrant** [Gol25b]. **vicious** [And20h]. **Video** [Gen23d, Lau24b, Smi23b]. **videoconferencing** [Sch20d]. **videos** [Hec20]. **vie** [Ack24d]. **View** [Ano24-144, Jag22]. **Vince** [Koz24c]. **Vint** [Per23]. **Vintage** [SS25, Sch23b]. **Violence** [Moo20c]. **violin** [Ano20-50]. **Violinist** [Gen25f]. **virtual** [Ano20-102]. **virtually** [Pes20a]. **viruses** [And20h]. **Vision** [Ano22-108, Aro24, SC23, Cal22, Ros22d]. **Visionary** [Jon25]. **Visually** [Gol24g]. **Vital** [GH23]. **vodka** [Ano20-100]. **Voice** [Cop25]. **Voice-Encryption** [Cop25]. **Voiceprinting** [Smi23c]. **Voices** [Smi23c]. **Voltage** [Bow21, Fai24a]. **volts** [Jes21]. **Volume** [Lew23]. **votes** [Hig20e]. **Voting** [Lau25a]. **voyage** [And20a]. **VR** [Cox25, Gen25e, Per20j, WAC+20]. **vs** [Hig20g]. **Vulnerability** [Hub24, RG20]. **Vulnerable** [Cha25b]. **vying** [Cly20].

Wage [Per20i]. **Waiting** [Har21, Smi22k]. **Waits** [Koz21a]. **Walk** [Pep25]. **Wallet** [Per22b, ZL20b]. **Wanamaker** [Bar20]. **Wandering** [Pow24]. **Want** [FBMI23, SG24, Per20h]. **Wanted** [Jon22b, Raf20b, Ano20-95, Cas20g]. **Wants** [Gen25b, AG20, Ack21b, Per22b]. **War** [Smi22f, Zee25, Ama25, Arm20, Cla24, Mar25a]. **Warehouse** [Ack22b]. **Warming** [Gib25]. **warn** [Hsu20c]. **Warp** [Zor25b]. **Wars** [Laz22, Mis23]. **Was** [Gol25b, Hoc22, Mar25c, Mar25f, Bro22b, Cas20h, Fru20, Smi23b]. **Washing** [Pre20]. **waste** [Kum21]. **Watch** [And20f, Ano20-91, Ham20d, Ham20b, Hsu20c, MWS$^+$25, Wal20b]. **Watchdog** [Fit21]. **Watts** [Pat23b]. **Wave** [AZPC22, Koz20c]. **waves** [Gal20a]. **Way** [Cab24, Kuh24, MMM24, MCG24, Pep25, Sca22, Smi25a, Koz21a, Sch20b, Str21]. **Ways** [BVKR23, Cho21, Fou21, Moo20a, RG20, SSJ$^+$25]. **Wealth** [Moo25b]. **Weaning** [JJS22]. **Weapons** [Pat23b]. **Weapons-Grade** [Pat23b]. **wear** [Sch20b, ZL20b]. **Wearable** [KK21, Mar24j, MW20]. **Wearables** [Bou21, Per21a]. **wearing** [Pre20]. **Weather** [Cas25a, Sch22a, Sch22b, Tow21]. **Weave** [Cas22g]. **Weaving** [Mar20i]. **Web** [Pau22, Smi25a]. **Web-Enabled** [Pau22]. **Web3** [Koz23c]. **Webb** [Sch21b, HPK22]. **Website** [Gol21]. **weeks** [Ano20p]. **Weight** [GP22]. **Weird** [Ano23a, Cas22f, MS22]. **We'll** [Gol24e, FOSMD23, Ros23b, Pes21a]. **Well-Connnected** [FOSMD23]. **wells** [Gal20a]. **Went** [Gol25j]. **We're** [Mar23j, RC25, Pot24, Bro22a, Mul24, Raf20b]. **west** [Ano20f, Gal21b]. **We've** [Gol24d]. **Where** [BMRW20, GK24, Jon23k, Sch21b, Per20h]. **wherever** [Per20h]. **Whether** [Fra21]. **While** [Pep25, Gol24b, Ras20b, Sch20d]. **Whirlpool** [Gen24f]. **white** [Per20b, Koz23c]. **Who** [Ack23b, BSG22, Cal24, Gol23g, Gol24j, HP20, Jor21, Gen24j, Per20o, Sch20b]. **Wi** [Koz24d, Hig20j, Zel20]. **Wi-Fi** [Koz24d, Hig20j, Zel20]. **Wide** [Ack24c, Mis23, Smi21e]. **Wide-Bandgap** [Mis23]. **Wide-Body** [Smi21e]. **Wiggling** [Boy24]. **wild** [Ano20f]. **Wildfire** [Fit21]. **Will** [And20b, And20i, Baj22, Cho23, CPBZ21, Dol23a, Fou22, Gol24h, Gol25j, Mis23, Moo24e, Smi23a, Zac25, Ack20, Ack21a, AS22, Ack25b, BS22, Bow21, BSAH21, Cly22, CZG25, Dum20, Dum23, Fou21, Fun20, Gen24a, GO22, Gol24d, GA20, Has20a, Hut20, Kin25, Koz23d, KH24, Lau23b, MW20, Mit20, Moo22b, Moo22c, Moo25a, MD23, Pal22, Pan20, Pat22, Pot20a, Ros22c, Ros22d, Sch21b, Sch22c, Smi22h, Sto20, VH20, WPBS23]. **Wimshurst** [Mar23c]. **Win** [Ama25, Gen24b, Mis23, SG22, Pot20b, ZL20a]. **Wind** [Ano23-137, Jon23k, MD23, Wal25a, JJS22]. **Wind-Powered** [Ano23-137]. **Wind-to-Hydrogen** [MD23]. **Wind-Turbine** [Wal25a]. **windfall** [Koz24c]. **Winding** [Mur23]. **Windows** [Bro23a, Ros20b]. **Winds** [Fai23a]. **Windturbine** [Mos25a]. **wine** [Smi20e]. **Wingman** [Lev20]. **Winners** [Sto23]. **winning** [SZ20]. **Wins** [Gen23a, Mar25h]. **Winter** [Pat22]. **WinZips** [Per21b]. **Wireless** [BD22, Ulr20a, Koz21b, Koz24d, SMD20]. **Wiretapper** [Hoc22]. **wish** [Ano20-95]. **Without** [Gol22e, Lew23, Ros22d, WC23, And20h]. **Withstand** [FOSMD23, Cha21a]. **Wizard** [Zor23b]. **Wizards** [Ano21-50]. **Wombs** [Zim21]. **Women** [Gen24g, Gol24c, Per20i, Per20b]. **wonder** [Smi23b]. **Wonderful** [Mar21j, Gol23c]. **Won't** [Pau22, Bro21]. **word** [Tho21b]. **Work** [Moo24e, Ros23b, Cro20, Der21d, Der22f, NS20, Per20h, Pre20]. **Workbench** [Coo21]. **Worked** [Goo25, Zor22a, Smi23b]. **Workers** [Cal24, AS22, Ano20-68].

Workforce [Pat23a]. **Working** [Der21g, Pes21b, NG23]. **Workplace** [AS22, Gol25a, Per24a, Per20d]. **Works** [MSS21]. **World** [Ano21-144, Ano22-131, Ano22-132, Car24, CG23, Gen23e, Gib21, GO22, GP22, Kin25, Lev21, McC20, Mos25a, PRR23, Sch25b, Smi21k, Smi22h, Zor25a, Ano20-103, Ano20-104, Ano21-145, Ano22-130, Cha20b, Dum22, Gol23c, Jon24a, Zor20, Sto23]. **Worldcoin** [Gen23e]. **Worlds** [Pow24]. **Worst** [Ack22b, BSG22]. **Worst-Case** [BSG22]. **Would** [RC25, DM20, PSD22]. **Wrapped** [CP21]. **Write** [Cab24, Cas20a]. **Writes** [Der21g]. **Wrong** [Ano23a, RC25, Hig20i]. **WW** [Hoc22]. **WYSIWYG** [Bro23a].

X [Cas20g, LA22, Mar20f]. **X-ray** [LA22, Mar20f]. **X2** [Mar24k]. **XB** [Ros21]. **XB-1** [Ros21]. **Xerox** [Bro23a]. **Xomotion** [Str25b]. **XPrize** [Ack23a, Ano20-100].

Year [Abb23, Ack24d, Ack25b, Cly24, Gol25f, MWS+25, Smi21f, Str24b, Zor22c, Ack21a, Ano20t, Per20j, Per20a, Smi20h]. **Years** [Gol24d, SB22a, Smi25a, Der22b, Fun20, Jon24a, MS22, Scu20b, Smi20d, ZL20b, Zor22d, Zor23b]. **yellow** [GA20, Raf20a]. **yellow-light** [Raf20a]. **yields** [Sca22]. **Yilu** [Wal24a]. **York** [Hoc22]. **Yorktown** [Gol24g]. **You'll** [Cas23b]. **Younger** [Ack22a]. **Yours** [Cas22g]. **Yourself** [Cox25, CD21]. **You've** [Ama25]. **Yugoslavia** [Ack23d, Cas23d]. **Yung** [Der22c]. **Yung-Hsiang** [Der22c].

Z [Cly22]. **Z-pinch** [Cly22]. **Z80** [Ack23d, Cas23d]. **Z80-based** [Ack23d, Cas23d]. **Zach** [Gen24k]. **Zap** [Cly22]. **Zero** [Cas23b, Fit21]. **Zero-Power** [Fit21]. **Zittrain** [Der23d]. **Ziv** [Per21b]. **Zoom** [Hec20, Sch20d]. **Zurich** [Ano22-51].

References

Abbott:2023:FSM

[Abb23] Derek Abbott. Finding Somerton Man: How DNA, AI facial reconstruction, and sheer grit cracked a 75-year-old cold case. *IEEE Spectrum*, 60(4):22–30, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2021:THS

[ACDG21] Evan Ackerman, Stephen Cass, Michael Dumiak, and Maria Gallucci. Transportation: How safe are eVTOLs?: Extremely safe say manufacturers: News. *IEEE Spectrum*, 58(11):6–13, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2020:EWO

[Ack20] E. Ackerman. This exoskeleton will obey your brain. *IEEE Spectrum*, 57(1):50–51, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2021:RTO

[Ack21a] E. Ackerman. Robot trucks overtake robot cars: This year, trucks will drive themselves on public roads with no one on board. *IEEE Spectrum*, 58 (1):42–43, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2021:DLG

[Ack21b] Evan Ackerman. Deep learning goes to boot camp: The U.S. Army wants to team humans and robots on the battlefield. *IEEE Spectrum*, 58(10):56–62, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:HRC

[Ack22a] Evan Ackerman. How robots can help US act and feel younger: Toyota's Gill Pratt on enhancing independence in old age. *IEEE Spectrum*, 59(8):26–31, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:RWJ

[Ack22b] Evan Ackerman. A robot for the worst job in the warehouse: Boston Dynamics' Stretch can move 800 heavy boxes per hour. *IEEE Spectrum*, 59(1): 50–51, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:RCU

[Ack22c] Evan Ackerman. Robots conquer the underground: What DARPA's subterranean challenge means for the future of autonomous robots. *IEEE Spectrum*, 59(5):30–37, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:UR

[Ack22d] Evan Ackerman. Underground with robots. *IEEE Spectrum*, 59(5):2, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2023:HLW

[Ack23a] Evan Ackerman. Human in the loop: What the avatar XPrize revealed about the future of telepresence robots. *IEEE Spectrum*, 60(5):38–44, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2023:RHH

[Ack23b] Evan Ackerman. A robot for humanity: How robots can empower people who need them the most. *IEEE Spectrum*, 60(11): 22–29, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2023:SSH

[Ack23c] Evan Ackerman. Superhuman speed: How autonomous drones beat the best human racers. *IEEE Spectrum*, 60(9): 30–37, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2023:YHB

[Ack23d] Evan Ackerman. Yugoslavia's home-brewed microcomputer: The Z80-based Galaksija dared to be different. *IEEE Spectrum*, 60(8):21–22, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2024:QRB

[Ack24a] Evan Ackerman. 5 questions Ruzena Bajcsy: a founder of modern robotics reflects on her legacy. *IEEE Spectrum*, 61 (12):23, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2024:BHA

[Ack24b] Evan Ackerman. A brief history of Aibo. *IEEE Spectrum*, 61 (12):16–17, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2024:OWR

[Ack24c] Evan Ackerman. Open wide for this robot arm. *IEEE Spectrum*, 61(10):14–15, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2024:YHL

[Ack24d] Evan Ackerman. Year of the humanoid: Legged robots from eight companies vie for jobs. *IEEE Spectrum*, 61(01): 44–48, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2025:RCT

[Ack25a] Evan Ackerman. Robots for cows (and their humans): Everyone's happier when robots handle milking, feeding, and ear scritching. *IEEE Spectrum*, 62 (5):38–54, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2025:UDU

[Ack25b] Evan Ackerman. Unveiling a dynamic universe: The Vera C. Rubin Observatory's 10-year survey will discover billions of objects we never knew existed. *IEEE Spectrum*, 62(7):22–31, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:Nb

[ACLS22] Evan Ackerman, Charles Q. Choi, Lucas Laursen, and Rebecca Sohn. News. *IEEE Spectrum*, 59(9):6–13, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Assawaworrarit:2023:CSC

[AF23] Sid Assawaworrarit and Shanhui Fan. The coldness of space can power earth: We can hack thermodynamics to cool buildings and light up the night. *IEEE Spectrum*, 60(12):40–45, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Almassalkhi:2022:PPG

[AFH22] Mads Almassalkhi, Jeff Frolik, and Paul Hines. Packetizing the power grid: The rules of the Internet can also balance electricity supply and demand. *IEEE Spectrum*, 59(2):42–47, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2020:RKI

[AG20] E. Ackerman and E. Guizzo. A robot that keeps it simple: Hello robot wants to reinvent how autonomous machines perform tasks at home. *IEEE Spectrum*, 57(10):11, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Akesson:2023:CTC

[Ake23] Linus Akesson. The Commodordion: Two C64s plus some floppy disks equals one instrument. *IEEE Spectrum*, 60(1): 20–22, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Allen:2025:UBN

[AL25] John R. Allen and Peter L. Levin. An undo button for nuclear armageddon. *IEEE Spectrum*, 62(2):26–31, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Acuto:2021:WWL

[ALRW21] Michele Acuto, Shaun Larcom, Ferdin Rauch, and Tim Willems. What we learned from the pandemic: Most of all, it taught us how to adapt under pressure. *IEEE Spectrum*, 58(8): 22–27, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Amato:2025:SSY

[Ama25] Ivan Amato. A spy satellite you've never heard of helped win the Cold War: The Parcae Project revolutionized electronic eavesdropping. *IEEE Spectrum*, 62(2):40–47, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:FPC

[AMK+20] M. Anderson, S. K. Moore, M. Koziol, R. N. Charette, and M. Scudellari. Fractional particles could mean new electronics: Quasiparticles might lead to new kinds of quantum computers — [news]. *IEEE Spectrum*, 57 (11):6–13, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:BVA

[And20a] M. Anderson. Bon voyage for the autonomous ship Mayflower. *IEEE Spectrum*, 57 (1):36–39, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:EAM

[And20b] M. Anderson. Engineered antibody mist blocks coronavirus: Will the first breakthrough COVID-19 treatment be an inhaler or nasal spray? — [news]. *IEEE Spectrum*, 57(10):6–7, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:EBS

[And20c] M. Anderson. EV batteries shift into high gear: Advances in anodes, cathodes, and electrolytes are poised to appear in future electric vehicles. *IEEE Spectrum*, 57(4):8–9, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:LPU

[And20d] M. Anderson. Limited progress for U.S. nuclear: Two fission projects raise questions about the long-term future of nuclear power — [news]. *IEEE Spectrum*, 57(6):6–7, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:PSG

[And20e] M. Anderson. Prescription-strength gaming: ADHD treatment now comes in the form of a first-person racing game — [news]. *IEEE Spectrum*, 57(8):9–10, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:PTP

[And20f] M. Anderson. PrintFixer tunes any 3D printer — [journal watch]. *IEEE Spectrum*, 57(4):7, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:RAS

[And20g] M. Anderson. The road ahead for self-driving cars: The AV industry has had to reset expectations, as it shifts its focus to level 4 autonomy — [news]. *IEEE Spectrum*, 57(5):8–9, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:UOG

[And20h] M. Anderson. The ultraviolet offense: Germicidal UV lamps destroy vicious viruses. New tech might put them many more places without harming humans. *IEEE Spectrum*, 57(10):50–55, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2020:WCA

[And20i] M. Anderson. Will China attain exascale supercomputing in 2020? *IEEE Spectrum*, 57(1):52–53, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2025:QTH

[And25a] Margo Anderson. 5 questions: Todd Humphreys: GPS spoofing threatens airliners. *IEEE Spectrum*, 62(1):15, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2025:DDT

[And25b] Margo Anderson. The data: Drones: Tomorrow's cell towers? *IEEE Spectrum*, 62(9):14–15, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anderson:2025:DDD

[And25c] Margo Anderson. Ducking, dodging, and disposing in low Earth orbit: Can tech scale to meet today's runaway orbital debris problems? *IEEE Spectrum*, 62(10):58–63, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Aa

[Ano20a] Anonymous. Advertisements. *IEEE Spectrum*, 57(8):51, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ab

[Ano20b] Anonymous. Advertisements. *IEEE Spectrum*, 57(9):52, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ac

[Ano20c] Anonymous. Advertisements. *IEEE Spectrum*, 57(10):68, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ad

[Ano20d] Anonymous. Advertisements. *IEEE Spectrum*, 57(10):70–71, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ae

[Ano20e] Anonymous. Advertisements. *IEEE Spectrum*, 57(11):50–51, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:AAF

[Ano20f] Anonymous. Applying AI in forestry's wild west. *IEEE Spectrum*, 57(8):2, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:ALS

[Ano20g] Anonymous. Attack of the legacy systems — [back story]. *IEEE Spectrum*, 57(9):2, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:AAA

[Ano20h] Anonymous. Automaton administers antiviral aerosol — [news]. *IEEE Spectrum*, 57 (5):14–15, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:AVR

[Ano20i] Anonymous. Autonomous vehicles require batteries with lasting power. *IEEE Spectrum*, 57 (12):5, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BCa

[Ano20j] Anonymous. Back cover. *IEEE Spectrum*, 57(8):c4, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BCb

[Ano20k] Anonymous. Back cover. *IEEE Spectrum*, 57(9):c4, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BCc

[Ano20l] Anonymous. [Back cover]. *IEEE Spectrum*, 57(10):c4, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BCd

[Ano20m] Anonymous. [Back cover]. *IEEE Spectrum*, 57(11):c4, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BICa

[Ano20n] Anonymous. [Back inside cover]. *IEEE Spectrum*, 57(10):c3, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BICb

[Ano20o] Anonymous. [Back inside cover]. *IEEE Spectrum*, 57 (11):c3, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BPA

[Ano20p] Anonymous. Become a published author in 4 to 6 weeks [advertisement]. *IEEE Spectrum*, 57 (12):15, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BPB

[Ano20q] Anonymous. Biology's potentials — [back story]. *IEEE Spectrum*, 57(7):02, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:BEB

[Ano20r] Anonymous. The body electric — [back story]. *IEEE Spectrum*, 57(12):2, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:SBB

[Ano20s] Anonymous. *Spectrum*'s bellwether — [back story]. *IEEE Spectrum*, 57(5):2, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:CCN

[Ano20t] Anonymous. COMSOL conference: 2020 North America: The multiphysics simulation event of the year. *IEEE Spectrum*, 57 (8):17, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:CFC

[Ano20u] Anonymous. Concrete facts — [CrossTalk]. *IEEE Spectrum*, 57 (3):20–21, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ca

[Ano20v] Anonymous. Contents. *IEEE Spectrum*, 57(1):1, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cc

[Ano20w] Anonymous. Contents. *IEEE Spectrum*, 57(2):1, February 2020. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ce

[Ano20x] Anonymous. Contents. *IEEE Spectrum*, 57(3):1, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cg

[Ano20y] Anonymous. Contents. *IEEE Spectrum*, 57(4):1, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ci

[Ano20z] Anonymous. Contents. *IEEE Spectrum*, 57(5):1, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ck

[Ano20-27] Anonymous. Contents. *IEEE Spectrum*, 57(6):1, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cn

[Ano20-28] Anonymous. Contents. *IEEE Spectrum*, 57(8):1, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cp

[Ano20-29] Anonymous. Contents. *IEEE Spectrum*, 57(9):1, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cr

[Ano20-30] Anonymous. Contents. *IEEE Spectrum*, 57(10):1, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ct

[Ano20-31] Anonymous. Contents. *IEEE Spectrum*, 57(11):1, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cb

[Ano20-32] Anonymous. Contributors. *IEEE Spectrum*, 57(1):3, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cd

[Ano20-33] Anonymous. Contributors. *IEEE Spectrum*, 57(2):3, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cf

[Ano20-34] Anonymous. Contributors. *IEEE Spectrum*, 57(3):3, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Ch

[Ano20-35] Anonymous. Contributors. *IEEE Spectrum*, 57(4):3, April 2020.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cj

[Ano20-36] Anonymous. Contributors. *IEEE Spectrum*, 57(5):3, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cl

[Ano20-37] Anonymous. Contributors. *IEEE Spectrum*, 57(6):3, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cm

[Ano20-38] Anonymous. Contributors. *IEEE Spectrum*, 57(7):03, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Co

[Ano20-39] Anonymous. Contributors. *IEEE Spectrum*, 57(8):3, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cq

[Ano20-40] Anonymous. Contributors. *IEEE Spectrum*, 57(9):3, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cs

[Ano20-41] Anonymous. Contributors. *IEEE Spectrum*, 57(10):3, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cu

[Ano20-42] Anonymous. Contributors. *IEEE Spectrum*, 57(11):3, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:Cv

[Ano20-43] Anonymous. Contributors. *IEEE Spectrum*, 57(12):4, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:CIG

[Ano20-44] Anonymous. CrossTalk: Indeterminate growth. *IEEE Spectrum*, 57(9):20–21, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:EPC

[Ano20-45] Anonymous. Electricity prices: a changing bargain: Crosstalk. *IEEE Spectrum*, 57(2):17–18, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:EBN

[Ano20-46] Anonymous. Emergency broadcast — [news]. *IEEE Spectrum*, 57(6):12–13, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:EPB

[Ano20-47] Anonymous. The engineer's perspective — [back story]. *IEEE Spectrum*, 57(3):2, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FRB

[Ano20-48] Anonymous. Final reflections — [back story]. *IEEE Spectrum*, 57(1):2, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FFF

[Ano20-49] Anonymous. Flying fast, far, and fuelless — [news]. *IEEE Spectrum*, 57(3):14–15, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:VPC

[Ano20-50] Anonymous. For violin, press command-print — [news]. *IEEE Spectrum*, 57(4):14–15, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FFL

[Ano20-51] Anonymous. Formula 1 fantasy league — [news]. *IEEE Spectrum*, 57(8):12–13, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCa

[Ano20-52] Anonymous. [Front cover]. *IEEE Spectrum*, 57(1):c1, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCb

[Ano20-53] Anonymous. Front cover. *IEEE Spectrum*, 57(2):c1, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCc

[Ano20-54] Anonymous. Front cover. *IEEE Spectrum*, 57(3):c1, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCd

[Ano20-55] Anonymous. Front cover. *IEEE Spectrum*, 57(4):c1, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCe

[Ano20-56] Anonymous. Front cover. *IEEE Spectrum*, 57(5):c1, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCf

[Ano20-57] Anonymous. Front cover. *IEEE Spectrum*, 57(6):c1, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCg

[Ano20-58] Anonymous. Front cover. *IEEE Spectrum*, 57(8):c1, August 2020.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCh

[Ano20-59] Anonymous. Front cover. *IEEE Spectrum*, 57(9):c1, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCi

[Ano20-60] Anonymous. [Front cover]. *IEEE Spectrum*, 57(10):c1, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCj

[Ano20-61] Anonymous. [Front cover]. *IEEE Spectrum*, 57(11):c1, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FCk

[Ano20-62] Anonymous. [Front cover]. *IEEE Spectrum*, 57(12):c1, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FICa

[Ano20-63] Anonymous. [Front inside cover]. *IEEE Spectrum*, 57(10):c2, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FICb

[Ano20-64] Anonymous. [Front inside cover]. *IEEE Spectrum*, 57 (11):c2, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:FICc

[Ano20-65] Anonymous. [Front inside cover]. *IEEE Spectrum*, 57(12):c2, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:GGM

[Ano20-66] Anonymous. Good grids make good neighbors. *IEEE Spectrum*, 57(12):38–43, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:HL

[Ano20-67] Anonymous. The healing light. *IEEE Spectrum*, 57(9): 50, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:HRB

[Ano20-68] Anonymous. How robots became essential workers: They disinfected hospital rooms. They delivered medical supplies. They swabbed people's throats. Next time around, they'll be treating patients. *IEEE Spectrum*, 57 (10):36–43, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:DCE

[Ano20-69] Anonymous. I drive the car electric — [back story]. *IEEE Spectrum*, 57(4):2, April 2020. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IFR

[Ano20-70] Anonymous. IEEE Foundation: Realize: The full potential of IEEE. *IEEE Spectrum*, 57(12):7, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IMD

[Ano20-71] Anonymous. IEEE member discounts: Exclusive offers are another big plus to IEEE membership. *IEEE Spectrum*, 57(8):31, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:ITOa

[Ano20-72] Anonymous. Innovate: transform our future. *IEEE Spectrum*, 57(8):23, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:ITOb

[Ano20-73] Anonymous. Innovate: Transform our future. *IEEE Spectrum*, 57(9):13, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IBCa

[Ano20-74] Anonymous. Inside back cover. *IEEE Spectrum*, 57(8):c3, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IBCb

[Ano20-75] Anonymous. Inside back cover. *IEEE Spectrum*, 57 (9):c3, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IFCa

[Ano20-76] Anonymous. Inside front cover. *IEEE Spectrum*, 57(8):c2, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IFCb

[Ano20-77] Anonymous. Inside front cover. *IEEE Spectrum*, 57 (9):c2, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:IOT

[Ano20-78] Anonymous. Invented in the 1800s. Optimized for today. *IEEE Spectrum*, 57(11): 5, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:ICF

[Ano20-79] Anonymous. IoT calls for fast communication between sensors. *IEEE Spectrum*, 57(8):5, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:TBS

[Ano20-80] Anonymous. It's a take — [back story]. *IEEE Spectrum*, 57(6):2, June 2020. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:LTG

[Ano20-81] Anonymous. Life of a tube guy — [back story]. *IEEE Spectrum*, 57(11):2, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:LLNb

[Ano20-82] Anonymous. Light and lively — [news]. *IEEE Spectrum*, 57 (12):16–17, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:LLNa

[Ano20-83] Anonymous. Location, location — [news]. *IEEE Spectrum*, 57 (2):12–13, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:LD

[Ano20-84] Anonymous. Look deeper. *IEEE Spectrum*, 57(12):3, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:MBE

[Ano20-85] Anonymous. Meanwhile, back on Earth — news. *IEEE Spectrum*, 57(7):12–13, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:NFS

[Ano20-86] Anonymous. New faculty searches in electrical engineering 2020–21. *IEEE Spectrum*, 57 (12):51–55, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:OMS

[Ano20-87] Anonymous. Old McDonald had some chips — [news]. *IEEE Spectrum*, 57(9):14–15, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:PMM

[Ano20-88] Anonymous. Pandemic memories and mortalities — [CrossTalk]. *IEEE Spectrum*, 57(10):16–17, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:PFN

[Ano20-89] Anonymous. Photon flight — [news]. *IEEE Spectrum*, 57(11): 14–15, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:PIA

[Ano20-90] Anonymous. Professor intelligent and autonomous embedded systems. *IEEE Spectrum*, 57 (9):51, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:PSR

[Ano20-91] Anonymous. A proximity sensor for robots — [journal watch]. *IEEE Spectrum*, 57(5):10, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:PPB

[Ano20-92] Anonymous. Pursuing the pandemic — [back story]. *IEEE Spectrum*, 57(10):2, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:RME

[Ano20-93] Anonymous. Recruit a member. Earn rewards! *IEEE Spectrum*, 57(9):31, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:SSC

[Ano20-94] Anonymous. Sense and sensoribility — [crosstalk]. *IEEE Spectrum*, 57(2):20, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:SWS

[Ano20-95] Anonymous. Skills wanted: SQL, Java, Python, and AWS top employers' wish lists — [careers]. *IEEE Spectrum*, 57(1):59, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:SSHa

[Ano20-96] Anonymous. Smartphones, smart homes, smart healthcare? *IEEE Spectrum*, 57 (9):5, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:SSHb

[Ano20-97] Anonymous. Smartphones, smart homes, smart healthcare? *IEEE Spectrum*, 57(10):5, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:TC

[Ano20-98] Anonymous. Table of contents. *IEEE Spectrum*, 57(12):1, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:TTP

[Ano20-99] Anonymous. Triumphs turning points. *IEEE Spectrum*, 57(1):23, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:TCD

[Ano20-100] Anonymous. Turning carbon dioxide into vodka: a Brooklyn startup is an XPrize finalist for its boozy carbon-capture technology — [podcasts]. *IEEE Spectrum*, 57(12):21, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:UUC

[Ano20-101] Anonymous. UCDAVIS: University of California, Davis. *IEEE Spectrum*, 57(10):69, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:WAR

[Ano20-102] Anonymous. When all reality is virtual — [back story]. *IEEE Spectrum*, 57(2):2, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:WBRa

[Ano20-103] Anonymous. The world's best robots guide is here! [advertisement]. *IEEE Spectrum*, 57 (11):37, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2020:WBRb

[Ano20-104] Anonymous. The world's best robots guide is here! [advertisement]. *IEEE Spectrum*, 57 (12):56, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:AGH

[Ano21a] Anonymous. Adrian Gropper: How to become a privacy entrepreneur [careers]. *IEEE Spectrum*, 58(4):17, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Aa

[Ano21b] Anonymous. Advertisement. *IEEE Spectrum*, 58(1):1, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ab

[Ano21c] Anonymous. Advertisement. *IEEE Spectrum*, 58(2):46–47, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ac

[Ano21d] Anonymous. Advertisement. *IEEE Spectrum*, 58(3):29, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ae

[Ano21e] Anonymous. Advertisement. *IEEE Spectrum*, 58(5):31, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Af

[Ano21f] Anonymous. Advertisement. *IEEE Spectrum*, 58(5):47, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ag

[Ano21g] Anonymous. Advertisement. *IEEE Spectrum*, 58(5):55, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ah

[Ano21h] Anonymous. Advertisement. *IEEE Spectrum*, 58(6):3, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ai

[Ano21i] Anonymous. Advertisement. *IEEE Spectrum*, 58(6):50, June

2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Aj

[Ano21j] Anonymous. Advertisement. *IEEE Spectrum*, 58(6):55, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ak

[Ano21k] Anonymous. Advertisement. *IEEE Spectrum*, 58(6):67, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Al

[Ano21l] Anonymous. Advertisement. *IEEE Spectrum*, 58(8):47, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Am

[Ano21m] Anonymous. Advertisement. *IEEE Spectrum*, 58(9):3, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:An

[Ano21n] Anonymous. Advertisement. *IEEE Spectrum*, 58(9):5, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ao

[Ano21o] Anonymous. Advertisement. *IEEE Spectrum*, 58(9):57, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ap

[Ano21p] Anonymous. Advertisement. *IEEE Spectrum*, 58(9):69, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Aq

[Ano21q] Anonymous. Advertisement. *IEEE Spectrum*, 58(9):70–71, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ar

[Ano21r] Anonymous. [Advertisement]. *IEEE Spectrum*, 58(10):3, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:As

[Ano21s] Anonymous. [Advertisement]. *IEEE Spectrum*, 58(10):5, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:At

[Ano21t] Anonymous. [Advertisement]. *IEEE Spectrum*, 58(10):21, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Au

[Ano21u] Anonymous. [Advertisement]. *IEEE Spectrum*, 58(10):23, October 2021. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Av

[Ano21v] Anonymous. [Advertisement]. *IEEE Spectrum*, 58(10):62–63, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Aw

[Ano21w] Anonymous. Advertisement. *IEEE Spectrum*, 58(12):3, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ax

[Ano21x] Anonymous. Advertisement. *IEEE Spectrum*, 58(12):5, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ay

[Ano21y] Anonymous. Advertisement. *IEEE Spectrum*, 58(12):67, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Az

[Ano21z] Anonymous. Advertisement. *IEEE Spectrum*, 58(12):68–75, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:ABS

[Ano21-27] Anonymous. Advertisement: Because someone looks up to you. *IEEE Spectrum*, 58(12):57, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:ACa

[Ano21-28] Anonymous. Advertisement: COMSOL. *IEEE Spectrum*, 58(8):3, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:ACSa

[Ano21-29] Anonymous. Advertisement: COMSOL software. *IEEE Spectrum*, 58(7):5, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:ACSb

[Ano21-30] Anonymous. Advertisement: COMSOL software. *IEEE Spectrum*, 58(11):5, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:AIF

[Ano21-31] Anonymous. Advertisement: IEEE Foundation. *IEEE Spectrum*, 58(4):55, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ad

[Ano21-32] Anonymous. Advertisements. *IEEE Spectrum*, 58(4):54, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCa

[Ano21-33] Anonymous. [Back cover]. *IEEE Spectrum*, 58(4):CV4, April

2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCb

[Ano21-34] Anonymous. [Back cover]. *IEEE Spectrum*, 58(6):CV4, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCc

[Ano21-35] Anonymous. [Back cover]. *IEEE Spectrum*, 58(8):CV4, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCd

[Ano21-36] Anonymous. [Back cover]. *IEEE Spectrum*, 58(9):CV4, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCe

[Ano21-37] Anonymous. [Back cover]. *IEEE Spectrum*, 58(10):CV4, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCf

[Ano21-38] Anonymous. [Back cover]. *IEEE Spectrum*, 58(11):CV4, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BCg

[Ano21-39] Anonymous. [Back cover]. *IEEE Spectrum*, 58(12):CV4, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICa

[Ano21-40] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(4):CV3, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICb

[Ano21-41] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(6):CV3, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICc

[Ano21-42] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(8):CV3, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICd

[Ano21-43] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(9): CV3, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICe

[Ano21-44] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(10):CV3, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICf

[Ano21-45] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(11):

CV3, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BICg

[Ano21-46] Anonymous. [Back inside cover]. *IEEE Spectrum*, 58(12):CV3, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BSa

[Ano21-47] Anonymous. Back story. *IEEE Spectrum*, 58(1):3, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BSb

[Ano21-48] Anonymous. Back story. *IEEE Spectrum*, 58(2):2, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BS

[Ano21-49] Anonymous. Back story. *IEEE Spectrum*, 58(6):2, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BSW

[Ano21-50] Anonymous. Back story: Wizards of light. *IEEE Spectrum*, 58(4):2, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BPa

[Ano21-51] Anonymous. The big picture. *IEEE Spectrum*, 58(2): 12–13, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BPb

[Ano21-52] Anonymous. The big picture. *IEEE Spectrum*, 58(4):12–13, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BPBa

[Ano21-53] Anonymous. The big picture: a big bet on crypto. *IEEE Spectrum*, 58(8):12–13, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BPD

[Ano21-54] Anonymous. The big picture: In the dark. *IEEE Spectrum*, 58 (11):14–15, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BPS

[Ano21-55] Anonymous. The big picture: Sunny days ahead. *IEEE Spectrum*, 58(9):16–17, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:BPT

[Ano21-56] Anonymous. The big picture: Transforming power research. *IEEE Spectrum*, 58(12): 12–13, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IAAa

[Ano21-57] Anonymous. *IEEE Access* [advertisement]. *IEEE Spectrum*, 58(3):43, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IAAb

[Ano21-58] Anonymous. *IEEE Access* [advertisement]. *IEEE Spectrum*, 58(4):43, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:PIA

[Ano21-59] Anonymous. *Proceedings of the IEEE* [advertisement]. *IEEE Spectrum*, 58(3):52, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cc

[Ano21-60] Anonymous. Careers. *IEEE Spectrum*, 58(1):15, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:CAa

[Ano21-61] Anonymous. [Classified ads]. *IEEE Spectrum*, 58(11):50–55, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:CDG

[Ano21-62] Anonymous. Combating doom and gloom [back story]. *IEEE Spectrum*, 58(7):2, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:CMA

[Ano21-63] Anonymous. COMSOL multiphysics [advertisement]. *IEEE Spectrum*, 58(4):5, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ca

[Ano21-64] Anonymous. Contents. *IEEE Spectrum*, 58(1):1–2, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cd

[Ano21-65] Anonymous. Contents. *IEEE Spectrum*, 58(2):1, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cf

[Ano21-66] Anonymous. Contents. *IEEE Spectrum*, 58(3):1, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ch

[Ano21-67] Anonymous. Contents. *IEEE Spectrum*, 58(4):1, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ck

[Ano21-68] Anonymous. Contents. *IEEE Spectrum*, 58(5):1, May 2021.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Co

[Ano21-69] Anonymous. Contents. *IEEE Spectrum*, 58(6):1, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cq

[Ano21-70] Anonymous. Contents. *IEEE Spectrum*, 58(7):1, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cs

[Ano21-71] Anonymous. Contents. *IEEE Spectrum*, 58(8):1, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cu

[Ano21-72] Anonymous. Contents. *IEEE Spectrum*, 58(9):1, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cw

[Ano21-73] Anonymous. Contents. *IEEE Spectrum*, 58(10):1, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cy

[Ano21-74] Anonymous. Contents. *IEEE Spectrum*, 58(11):1, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cba

[Ano21-75] Anonymous. Contents. *IEEE Spectrum*, 58(12):1, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cb

[Ano21-76] Anonymous. Contributors. *IEEE Spectrum*, 58(1):4, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ce

[Ano21-77] Anonymous. Contributors. *IEEE Spectrum*, 58(2):11, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cg

[Ano21-78] Anonymous. Contributors. *IEEE Spectrum*, 58(3):11, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ci

[Ano21-79] Anonymous. Contributors. *IEEE Spectrum*, 58(4):4, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cl

[Ano21-80] Anonymous. Contributors. *IEEE Spectrum*, 58(5):3, May 2021.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cp

[Ano21-81] Anonymous. Contributors. *IEEE Spectrum*, 58(6):4, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cr

[Ano21-82] Anonymous. Contributors. *IEEE Spectrum*, 58(7):4, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Ct

[Ano21-83] Anonymous. Contributors. *IEEE Spectrum*, 58(8):4, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cv

[Ano21-84] Anonymous. Contributors. *IEEE Spectrum*, 58(9):4, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cx

[Ano21-85] Anonymous. Contributors. *IEEE Spectrum*, 58(10):4, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cz

[Ano21-86] Anonymous. Contributors. *IEEE Spectrum*, 58(11):4, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cbb

[Ano21-87] Anonymous. Contributors. *IEEE Spectrum*, 58(12):4, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cj

[Ano21-88] Anonymous. Cover 2. *IEEE Spectrum*, 58(5):CV2, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cm

[Ano21-89] Anonymous. Cover 3. *IEEE Spectrum*, 58(5):CV3, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Cn

[Ano21-90] Anonymous. Cover 4. *IEEE Spectrum*, 58(5):CV4, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:DBD

[Ano21-91] Anonymous. Design better devices faster. *IEEE Spectrum*, 58(1):1, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCa

[Ano21-92] Anonymous. Front cover. *IEEE Spectrum*, 58(1):1, January 2021.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCb

[Ano21-93] Anonymous. Front cover. *IEEE Spectrum*, 58(2):1, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCc

[Ano21-94] Anonymous. [Front cover]. *IEEE Spectrum*, 58(3):1, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCd

[Ano21-95] Anonymous. [Front cover]. *IEEE Spectrum*, 58(4):1, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCe

[Ano21-96] Anonymous. Front cover. *IEEE Spectrum*, 58(5):1, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCf

[Ano21-97] Anonymous. [Front cover]. *IEEE Spectrum*, 58(6):1, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCg

[Ano21-98] Anonymous. [Front cover]. *IEEE Spectrum*, 58(7):1, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCh

[Ano21-99] Anonymous. [Front cover]. *IEEE Spectrum*, 58(8):1, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCi

[Ano21-100] Anonymous. [Front cover]. *IEEE Spectrum*, 58(9):1, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCj

[Ano21-101] Anonymous. [Front cover]. *IEEE Spectrum*, 58(10):1, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCk

[Ano21-102] Anonymous. [Front cover]. *IEEE Spectrum*, 58(11):1, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FCl

[Ano21-103] Anonymous. Front cover. *IEEE Spectrum*, 58(12):1, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICa

[Ano21-104] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(4):CV2, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICc

[Ano21-105] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(7):CV2, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICd

[Ano21-106] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(8):CV2, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICe

[Ano21-107] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(9): CV2, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICf

[Ano21-108] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(10):CV2, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICg

[Ano21-109] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(11): CV2, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICh

[Ano21-110] Anonymous. [Front inside cover]. *IEEE Spectrum*, 58(12):CV2, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:FICb

[Ano21-111] Anonymous. [Front inside cover — advertisement]. *IEEE Spectrum*, 58(6):CV2, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:G

[Ano21-112] Anonymous. Gadgeteering. *IEEE Spectrum*, 58(10):2, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:GAR

[Ano21-113] Anonymous. The great AI reckoning: Deep learning may have reached its limits. What comes next? [table of contents]. *IEEE Spectrum*, 58(10):24–25, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:HTE

[Ano21-114] Anonymous. High-tech eyewear [the big picture]. *IEEE Spectrum*, 58(7):14–15, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IGC

[Ano21-115] Anonymous. IEEE Global Communications Conference, 7–11 December 2021. *IEEE Spectrum*, 58(11):19, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IMO

[Ano21-116] Anonymous. IEEE ME: One program. seven reasons. *IEEE Spectrum*, 58(2):1, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IMDa

[Ano21-117] Anonymous. IEEE member discounts. *IEEE Spectrum*, 58 (1):1, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IMDb

[Ano21-118] Anonymous. IEEE member discounts. *IEEE Spectrum*, 58(5):39, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IMDd

[Ano21-119] Anonymous. IEEE member discounts. *IEEE Spectrum*, 58 (11):3, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IMDc

[Ano21-120] Anonymous. IEEE member discounts [advertisement]. *IEEE Spectrum*, 58(7):3, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:IMG

[Ano21-121] Anonymous. IEEE member group disability income insurance. *IEEE Spectrum*, 58 (7):CV3, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:ITO

[Ano21-122] Anonymous. Innovate transform our future. *IEEE Spectrum*, 58(5):19, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:KPL

[Ano21-123] Anonymous. Keep pushing the limits! *IEEE Spectrum*, 58 (1):1, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:LBO

[Ano21-124] Anonymous. Looking beyond our solar system with ray tracing simulation. *IEEE Spectrum*, 58(3):3, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:MLa

[Ano21-125] Anonymous. Machine learning. *IEEE Spectrum*, 58(1):1, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:MLb

[Ano21-126] Anonymous. Machine learning. *IEEE Spectrum*, 58(2):1, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:MR

[Ano21-127] Anonymous. A magazine reborn. *IEEE Spectrum*, 58(5):2, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:MA

[Ano21-128] Anonymous. MATLAB [advertisement]. *IEEE Spectrum*, 58(7):CV4, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Na

[Ano21-129] Anonymous. News. *IEEE Spectrum*, 58(1):6–11, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Nb

[Ano21-130] Anonymous. News. *IEEE Spectrum*, 58(2):4–10, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Nc

[Ano21-131] Anonymous. News. *IEEE Spectrum*, 58(3):4–10, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:Nd

[Ano21-132] Anonymous. News. *IEEE Spectrum*, 58(4):6–11, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:PPS

[Ano21-133] Anonymous. Portrait of the portrait sleuths. *IEEE Spectrum*, 58(9):2, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:ROS

[Ano21-134] Anonymous. Ray optics simulation for inertial navigation. *IEEE Spectrum*, 58(2):1, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:R

[Ano21-135] Anonymous. Recruitment. *IEEE Spectrum*, 58(1):55, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:RPS

[Ano21-136] Anonymous. Red Planet selfie [the big picture]. *IEEE Spectrum*, 58(6):14–15, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:SCCb

[Ano21-137] Anonymous. Sensor control and characterization [advertisement]. *IEEE Spectrum*, 58(3):1, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:SCCa

[Ano21-138] Anonymous. Sensor control and characterization: All in one. *IEEE Spectrum*, 58(2):1, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:SN

[Ano21-139] Anonymous. The shipping news. *IEEE Spectrum*, 58(3):2, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:SCSa

[Ano21-140] Anonymous. Simulation case study. *IEEE Spectrum*, 58(5):5, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:SCSb

[Ano21-141] Anonymous. Simulation case study [advertisement]. *IEEE Spectrum*, 58(6):5, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:SDC

[Ano21-142] Anonymous. Socially distanced celebration. *IEEE Spectrum*, 58 (3):12–13, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:TTS

[Ano21-143] Anonymous. Top tech 2021: a special report. *IEEE Spectrum*, 58(1):21, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:WBRa

[Ano21-144] Anonymous. The world's best robots guide is here! [advertisement]. *IEEE Spectrum*, 58(4):3, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2021:WBRb

[Ano21-145] Anonymous. The world's best robots guide is here! [advertisement]. *IEEE Spectrum*, 58 (11):21, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Aa

[Ano22a] Anonymous. [Advertisement]. *IEEE Spectrum*, 59(1):3, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ab

[Ano22b] Anonymous. Advertisement. *IEEE Spectrum*, 59(1):5, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ac

[Ano22c] Anonymous. Advertisement. *IEEE Spectrum*, 59(1):59, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ad

[Ano22d] Anonymous. Advertisement. *IEEE Spectrum*, 59(1):60–63, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ae

[Ano22e] Anonymous. Advertisement. *IEEE Spectrum*, 59(2):5, February 2022. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Af

[Ano22f] Anonymous. Advertisement. *IEEE Spectrum*, 59(3):5, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ag

[Ano22g] Anonymous. Advertisement. *IEEE Spectrum*, 59(4):3, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ah

[Ano22h] Anonymous. Advertisement. *IEEE Spectrum*, 59(4):51, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ai

[Ano22i] Anonymous. Advertisement. *IEEE Spectrum*, 59(5):3, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Aj

[Ano22j] Anonymous. Advertisement. *IEEE Spectrum*, 59(5):5, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ak

[Ano22k] Anonymous. Advertisement. *IEEE Spectrum*, 59(5):6, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Al

[Ano22l] Anonymous. Advertisement. *IEEE Spectrum*, 59(5):23, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Am

[Ano22m] Anonymous. Advertisement. *IEEE Spectrum*, 59(5):50, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:An

[Ano22n] Anonymous. Advertisement. *IEEE Spectrum*, 59(5):51, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ao

[Ano22o] Anonymous. Advertisement. *IEEE Spectrum*, 59(6):3, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ap

[Ano22p] Anonymous. Advertisement. *IEEE Spectrum*, 59(6):53, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Aq

[Ano22q] Anonymous. Advertisement. *IEEE Spectrum*, 59(6):63, June 2022. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ar

[Ano22r] Anonymous. Advertisement. *IEEE Spectrum*, 59(7):3, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:As

[Ano22s] Anonymous. Advertisement. *IEEE Spectrum*, 59(7):19, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:At

[Ano22t] Anonymous. Advertisement. *IEEE Spectrum*, 59(7):47, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Au

[Ano22u] Anonymous. Advertisement. *IEEE Spectrum*, 59(8):3, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Av

[Ano22v] Anonymous. Advertisement. *IEEE Spectrum*, 59(8):47, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Aw

[Ano22w] Anonymous. Advertisement. *IEEE Spectrum*, 59(9):3, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ax

[Ano22x] Anonymous. Advertisement. *IEEE Spectrum*, 59(9):5, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ay

[Ano22y] Anonymous. Advertisement. *IEEE Spectrum*, 59(9):65, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Az

[Ano22z] Anonymous. Advertisement. *IEEE Spectrum*, 59(9):66, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Aba

[Ano22-27] Anonymous. Advertisement. *IEEE Spectrum*, 59(9):67, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abb

[Ano22-28] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):3, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abd

[Ano22-29] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):5, October 2022. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abe

[Ano22-30] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):31, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abf

[Ano22-31] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):39, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abg

[Ano22-32] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):53, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abh

[Ano22-33] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):54, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abi

[Ano22-34] Anonymous. Advertisement. *IEEE Spectrum*, 59(10):55, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abj

[Ano22-35] Anonymous. Advertisement. *IEEE Spectrum*, 59(11):3, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abk

[Ano22-36] Anonymous. Advertisement. *IEEE Spectrum*, 59(11):13, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abl

[Ano22-37] Anonymous. Advertisement. *IEEE Spectrum*, 59(11):46, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abm

[Ano22-38] Anonymous. Advertisement. *IEEE Spectrum*, 59(11):47, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abn

[Ano22-39] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):3, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abo

[Ano22-40] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):5, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abp

[Ano22-41] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):71, December 2022. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abq

[Ano22-42] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):72, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abr

[Ano22-43] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):73, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abs

[Ano22-44] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):74, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Abt

[Ano22-45] Anonymous. Advertisement. *IEEE Spectrum*, 59(12):75, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:ABCa

[Ano22-46] Anonymous. Advertisement [back cover]. *IEEE Spectrum*, 59(2):CV4, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:ABCb

[Ano22-47] Anonymous. Advertisement [back cover]. *IEEE Spectrum*, 59(3):CV4, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:AFIb

[Ano22-48] Anonymous. Advertisement [front insde cover]. *IEEE Spectrum*, 59(3):CV2, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:AFIa

[Ano22-49] Anonymous. Advertisement [front inside cover]. *IEEE Spectrum*, 59(2):CV2, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:AMB

[Ano22-50] Anonymous. Advertisement, Matlab [back cover]. *IEEE Spectrum*, 59(4):CV4, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:AZI

[Ano22-51] Anonymous. Advertisement, Zurich Instruments [front inside cover]. *IEEE Spectrum*, 59(4):CV2, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BC

[Ano22-52] Anonymous. [Back cover]. *IEEE Spectrum*, 59(1):CV4, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BICa

[Ano22-53] Anonymous. [Back inside cover]. *IEEE Spectrum*, 59(1):CV3, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BICb

[Ano22-54] Anonymous. [Back inside cover]. *IEEE Spectrum*, 59(4):CV3, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BSL

[Ano22-55] Anonymous. Because someone looks up to you [advertisement]. *IEEE Spectrum*, 59(3):57, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BPE

[Ano22-56] Anonymous. The big picture: Electric buses take charge. *IEEE Spectrum*, 59(3):14–15, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BPS

[Ano22-57] Anonymous. The big picture: Sun roasted. *IEEE Spectrum*, 59 (2):14–15, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:BPW

[Ano22-58] Anonymous. The big picture: What's next? *IEEE Spectrum*, 59(4):12–13, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:IAA

[Ano22-59] Anonymous. *IEEE Access* [advertisement]. *IEEE Spectrum*, 59(3):67, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ca

[Ano22-60] Anonymous. Contents. *IEEE Spectrum*, 59(1):1–2, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cc

[Ano22-61] Anonymous. Contents. *IEEE Spectrum*, 59(2):1, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ce

[Ano22-62] Anonymous. Contents. *IEEE Spectrum*, 59(3):1, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cg

[Ano22-63] Anonymous. Contents. *IEEE Spectrum*, 59(4):1, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cj

[Ano22-64] Anonymous. Contents. *IEEE Spectrum*, 59(5):1, May 2022.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Co

[Ano22-65] Anonymous. Contents. *IEEE Spectrum*, 59(6):1, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ct

[Ano22-66] Anonymous. Contents. *IEEE Spectrum*, 59(7):1, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cy

[Ano22-67] Anonymous. Contents. *IEEE Spectrum*, 59(8):1, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbd

[Ano22-68] Anonymous. Contents. *IEEE Spectrum*, 59(9):1, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbi

[Ano22-69] Anonymous. Contents. *IEEE Spectrum*, 59(10):1, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbn

[Ano22-70] Anonymous. Contents. *IEEE Spectrum*, 59(11):1, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbs

[Ano22-71] Anonymous. Contents. *IEEE Spectrum*, 59(12):1, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cb

[Ano22-72] Anonymous. Contributors. *IEEE Spectrum*, 59(1):6, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cd

[Ano22-73] Anonymous. Contributors. *IEEE Spectrum*, 59(2):2, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cf

[Ano22-74] Anonymous. Contributors. *IEEE Spectrum*, 59(3):3, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ch

[Ano22-75] Anonymous. Contributors. *IEEE Spectrum*, 59(4):2, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ck

[Ano22-76] Anonymous. Contributors. *IEEE Spectrum*, 59(5):4, May 2022.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cp

[Ano22-77] Anonymous. Contributors. *IEEE Spectrum*, 59(6):4, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cu

[Ano22-78] Anonymous. Contributors. *IEEE Spectrum*, 59(7):4, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cz

[Ano22-79] Anonymous. Contributors. *IEEE Spectrum*, 59(8):4, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbe

[Ano22-80] Anonymous. Contributors. *IEEE Spectrum*, 59(9):4, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbj

[Ano22-81] Anonymous. Contributors. *IEEE Spectrum*, 59(10):4, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbo

[Ano22-82] Anonymous. Contributors. *IEEE Spectrum*, 59(11):4, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbt

[Ano22-83] Anonymous. Contributors. *IEEE Spectrum*, 59(12):4, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ci

[Ano22-84] Anonymous. Cover 2. *IEEE Spectrum*, 59(5):CV2, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cn

[Ano22-85] Anonymous. Cover 2. *IEEE Spectrum*, 59(6):CV2, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cs

[Ano22-86] Anonymous. Cover 2. *IEEE Spectrum*, 59(7):CV2, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cx

[Ano22-87] Anonymous. Cover 2. *IEEE Spectrum*, 59(8):CV2, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbc

[Ano22-88] Anonymous. Cover 2. *IEEE Spectrum*, 59(9):CV2, September 2022. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbh

[Ano22-89] Anonymous. Cover 2. *IEEE Spectrum*, 59(10):CV2, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbm

[Ano22-90] Anonymous. Cover 2. *IEEE Spectrum*, 59(11):CV2, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbr

[Ano22-91] Anonymous. Cover 2. *IEEE Spectrum*, 59(12):CV2, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cl

[Ano22-92] Anonymous. Cover 3. *IEEE Spectrum*, 59(5):CV3, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cq

[Ano22-93] Anonymous. Cover 3. *IEEE Spectrum*, 59(6):CV3, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cv

[Ano22-94] Anonymous. Cover 3. *IEEE Spectrum*, 59(7):CV3, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cba

[Ano22-95] Anonymous. Cover 3. *IEEE Spectrum*, 59(8):CV3, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbf

[Ano22-96] Anonymous. Cover 3. *IEEE Spectrum*, 59(9):CV3, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbk

[Ano22-97] Anonymous. Cover 3. *IEEE Spectrum*, 59(10):CV3, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbp

[Ano22-98] Anonymous. Cover 3. *IEEE Spectrum*, 59(11):CV3, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbu

[Ano22-99] Anonymous. Cover 3. *IEEE Spectrum*, 59(12):CV3, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cm

[Ano22-100] Anonymous. Cover 4. *IEEE Spectrum*, 59(5):CV4, May 2022.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cr

[Ano22-101] Anonymous. Cover 4. *IEEE Spectrum*, 59(6):CV4, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cw

[Ano22-102] Anonymous. Cover 4. *IEEE Spectrum*, 59(7):CV4, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbb

[Ano22-103] Anonymous. Cover 4. *IEEE Spectrum*, 59(8):CV4, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbg

[Ano22-104] Anonymous. Cover 4. *IEEE Spectrum*, 59(9):CV4, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbl

[Ano22-105] Anonymous. Cover 4. *IEEE Spectrum*, 59(10):CV4, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbq

[Ano22-106] Anonymous. Cover 4. *IEEE Spectrum*, 59(11):CV4, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Cbv

[Ano22-107] Anonymous. Cover 4. *IEEE Spectrum*, 59(12):CV4, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FV

[Ano22-108] Anonymous. A fab and a vision. *IEEE Spectrum*, 59(6):2, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCa

[Ano22-109] Anonymous. [Front cover]. *IEEE Spectrum*, 59(1):1, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCb

[Ano22-110] Anonymous. [Front cover]. *IEEE Spectrum*, 59(2):1, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCc

[Ano22-111] Anonymous. [Front cover]. *IEEE Spectrum*, 59(3):1, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCd

[Ano22-112] Anonymous. Front cover. *IEEE Spectrum*, 59(4):1, April 2022.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCe

[Ano22-113] Anonymous. Front cover. *IEEE Spectrum*, 59(5):1, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCf

[Ano22-114] Anonymous. Front cover. *IEEE Spectrum*, 59(6):1, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCg

[Ano22-115] Anonymous. Front cover. *IEEE Spectrum*, 59(7):1, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCh

[Ano22-116] Anonymous. Front cover. *IEEE Spectrum*, 59(8):1, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCi

[Ano22-117] Anonymous. Front cover. *IEEE Spectrum*, 59(9):1, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCj

[Ano22-118] Anonymous. Front cover. *IEEE Spectrum*, 59(10):1, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCk

[Ano22-119] Anonymous. Front cover. *IEEE Spectrum*, 59(11):1, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FCl

[Ano22-120] Anonymous. Front cover. *IEEE Spectrum*, 59(12):1, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:FIC

[Ano22-121] Anonymous. [Front inside cover]. *IEEE Spectrum*, 59(1):CV2, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:IMB

[Ano22-122] Anonymous. IEEE & me [back inside cover]. *IEEE Spectrum*, 59(2):CV3, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:IMD

[Ano22-123] Anonymous. IEEE member discounts. *IEEE Spectrum*, 59 (1):15, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Ma

[Ano22-124] Anonymous. Masthead. *IEEE Spectrum*, 59(8):4, August 2022.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Mb

[Ano22-125] Anonymous. Masthead. *IEEE Spectrum*, 59(9):4, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Mc

[Ano22-126] Anonymous. Masthead. *IEEE Spectrum*, 59(10):4, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Md

[Ano22-127] Anonymous. Masthead. *IEEE Spectrum*, 59(11):4, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:Me

[Ano22-128] Anonymous. Masthead. *IEEE Spectrum*, 59(12):4, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:TT

[Ano22-129] Anonymous. Top tech 2022. *IEEE Spectrum*, 59(1):25, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:TPP

[Ano22-130] Anonymous. The transistor at 75: The past, present, and future of the modern world's most important invention. *IEEE Spectrum*, 59(12):22–23, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:WBRa

[Ano22-131] Anonymous. The world's best robots guide is here! [advertisement]. *IEEE Spectrum*, 59 (2):3, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2022:WBRb

[Ano22-132] Anonymous. The world's best robots guide is here! [back inside cover]. *IEEE Spectrum*, 59(3):CV3, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:QJS

[Ano23a] Anonymous. 5 questions for Janelle Shane: Why AI is so often weird, argumentative, and wrong. *IEEE Spectrum*, 60 (9):23, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aa

[Ano23b] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):3, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ab

[Ano23c] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):5, January 2023. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ac

[Ano23d] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):7, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ad

[Ano23e] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):58, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ae

[Ano23f] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):59, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Af

[Ano23g] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):60, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ag

[Ano23h] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):61, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ah

[Ano23i] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):62, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ai

[Ano23j] Anonymous. Advertisement. *IEEE Spectrum*, 60(1):63, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aj

[Ano23k] Anonymous. Advertisement. *IEEE Spectrum*, 60(3):3, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ak

[Ano23l] Anonymous. Advertisement. *IEEE Spectrum*, 60(3):13, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Al

[Ano23m] Anonymous. Advertisement. *IEEE Spectrum*, 60(3):65, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Am

[Ano23n] Anonymous. Advertisement. *IEEE Spectrum*, 60(3):66, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:An

[Ano23o] Anonymous. Advertisement. *IEEE Spectrum*, 60(3):67, March 2023. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ao

[Ano23p] Anonymous. Advertisement. *IEEE Spectrum*, 60(4):3, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ap

[Ano23q] Anonymous. Advertisement. *IEEE Spectrum*, 60(4):31, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aq

[Ano23r] Anonymous. Advertisement. *IEEE Spectrum*, 60(4):54, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ar

[Ano23s] Anonymous. Advertisement. *IEEE Spectrum*, 60(4):55, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:As

[Ano23t] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):3, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:At

[Ano23u] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):5, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Au

[Ano23v] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):6, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Av

[Ano23w] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):45, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aw

[Ano23x] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):53, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ax

[Ano23y] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):54, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ay

[Ano23z] Anonymous. Advertisement. *IEEE Spectrum*, 60(5):55, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Az

[Ano23-27] Anonymous. Advertisement. *IEEE Spectrum*, 60(6):3, June 2023. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aba

[Ano23-28] Anonymous. Advertisement. *IEEE Spectrum*, 60(6):13, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abb

[Ano23-29] Anonymous. Advertisement. *IEEE Spectrum*, 60(6):67, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abc

[Ano23-30] Anonymous. Advertisement. *IEEE Spectrum*, 60(7):3, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abd

[Ano23-31] Anonymous. Advertisement. *IEEE Spectrum*, 60(7):5, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abe

[Ano23-32] Anonymous. Advertisement. *IEEE Spectrum*, 60(7):50, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abf

[Ano23-33] Anonymous. Advertisement. *IEEE Spectrum*, 60(7):51, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abg

[Ano23-34] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):CV2, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abh

[Ano23-35] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):3, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abi

[Ano23-36] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):23, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abj

[Ano23-37] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):37, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abk

[Ano23-38] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):50, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abl

[Ano23-39] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):51, August 2023. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abm

[Ano23-40] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):CV3, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abn

[Ano23-41] Anonymous. Advertisement. *IEEE Spectrum*, 60(8):CV4, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abo

[Ano23-42] Anonymous. Advertisement. *IEEE Spectrum*, 60(9):3, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abp

[Ano23-43] Anonymous. Advertisement. *IEEE Spectrum*, 60(9):5, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abq

[Ano23-44] Anonymous. Advertisement. *IEEE Spectrum*, 60(9):6, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abr

[Ano23-45] Anonymous. Advertisement. *IEEE Spectrum*, 60(9):15, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abs

[Ano23-46] Anonymous. Advertisement. *IEEE Spectrum*, 60(9):67, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abt

[Ano23-47] Anonymous. Advertisement. *IEEE Spectrum*, 60(10):3, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abu

[Ano23-48] Anonymous. Advertisement. *IEEE Spectrum*, 60(10):50, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abv

[Ano23-49] Anonymous. Advertisement. *IEEE Spectrum*, 60(10):51, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abw

[Ano23-50] Anonymous. Advertisement. *IEEE Spectrum*, 60(11):3, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abx

[Ano23-51] Anonymous. Advertisement. *IEEE Spectrum*, 60(11):5, November 2023. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aby

[Ano23-52] Anonymous. Advertisement. *IEEE Spectrum*, 60(11):51, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Abz

[Ano23-53] Anonymous. Advertisement. *IEEE Spectrum*, 60(12):3, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Aca

[Ano23-54] Anonymous. Advertisement. *IEEE Spectrum*, 60(12):13, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Acb

[Ano23-55] Anonymous. Advertisement. *IEEE Spectrum*, 60(12):46, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Acc

[Ano23-56] Anonymous. Advertisement. *IEEE Spectrum*, 60(12):65, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Acd

[Ano23-57] Anonymous. Advertisement. *IEEE Spectrum*, 60(12):66, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ace

[Ano23-58] Anonymous. Advertisement. *IEEE Spectrum*, 60(12):67, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:CAa

[Ano23-59] Anonymous. COMSOL — advertisement. *IEEE Spectrum*, 60 (1):1s–36s, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cb

[Ano23-60] Anonymous. Contents. *IEEE Spectrum*, 60(1):1–2, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cg

[Ano23-61] Anonymous. Contents. *IEEE Spectrum*, 60(3):1–2, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cl

[Ano23-62] Anonymous. Contents. *IEEE Spectrum*, 60(4):1, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cq

[Ano23-63] Anonymous. Contents. *IEEE Spectrum*, 60(5):1, May 2023.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cv

[Ano23-64] Anonymous. Contents. *IEEE Spectrum*, 60(6):1, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cba

[Ano23-65] Anonymous. Contents. *IEEE Spectrum*, 60(7):1, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbe

[Ano23-66] Anonymous. Contents. *IEEE Spectrum*, 60(8):1, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbh

[Ano23-67] Anonymous. Contents. *IEEE Spectrum*, 60(9):1, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbm

[Ano23-68] Anonymous. Contents. *IEEE Spectrum*, 60(10):1, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbr

[Ano23-69] Anonymous. Contents. *IEEE Spectrum*, 60(11):1, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbw

[Ano23-70] Anonymous. Contents. *IEEE Spectrum*, 60(12):1, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cc

[Ano23-71] Anonymous. Contributors. *IEEE Spectrum*, 60(1):6, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ch

[Ano23-72] Anonymous. Contributors. *IEEE Spectrum*, 60(3):4, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cm

[Ano23-73] Anonymous. Contributors. *IEEE Spectrum*, 60(4):4, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cr

[Ano23-74] Anonymous. Contributors. *IEEE Spectrum*, 60(5):4, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cw

[Ano23-75] Anonymous. Contributors. *IEEE Spectrum*, 60(6):4, June 2023.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbb

[Ano23-76] Anonymous. Contributors. *IEEE Spectrum*, 60(7):4, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbf

[Ano23-77] Anonymous. Contributors. *IEEE Spectrum*, 60(8):4, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbi

[Ano23-78] Anonymous. Contributors. *IEEE Spectrum*, 60(9):4, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbn

[Ano23-79] Anonymous. Contributors. *IEEE Spectrum*, 60(10):4, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbs

[Ano23-80] Anonymous. Contributors. *IEEE Spectrum*, 60(11):4, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbx

[Ano23-81] Anonymous. Contributors. *IEEE Spectrum*, 60(12):4, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ca

[Ano23-82] Anonymous. Cover 2. *IEEE Spectrum*, 60(1):CV2, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cf

[Ano23-83] Anonymous. Cover 2. *IEEE Spectrum*, 60(3):CV2, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ck

[Ano23-84] Anonymous. Cover 2. *IEEE Spectrum*, 60(4):CV2, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cp

[Ano23-85] Anonymous. Cover 2. *IEEE Spectrum*, 60(5):CV2, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cu

[Ano23-86] Anonymous. Cover 2. *IEEE Spectrum*, 60(6):CV2, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cz

[Ano23-87] Anonymous. Cover 2. *IEEE Spectrum*, 60(7):1, July 2023.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbl

[Ano23-88] Anonymous. Cover 2. *IEEE Spectrum*, 60(10):CV2, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbq

[Ano23-89] Anonymous. Cover 2. *IEEE Spectrum*, 60(11):CV2, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbv

[Ano23-90] Anonymous. Cover 2. *IEEE Spectrum*, 60(12):CV2, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cd

[Ano23-91] Anonymous. Cover 3. *IEEE Spectrum*, 60(1):CV3, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ci

[Ano23-92] Anonymous. Cover 3. *IEEE Spectrum*, 60(3):CV3, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cn

[Ano23-93] Anonymous. Cover 3. *IEEE Spectrum*, 60(4):CV3, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cs

[Ano23-94] Anonymous. Cover 3. *IEEE Spectrum*, 60(5):CV3, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cx

[Ano23-95] Anonymous. Cover 3. *IEEE Spectrum*, 60(6):CV3, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbc

[Ano23-96] Anonymous. Cover 3. *IEEE Spectrum*, 60(7):1, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbo

[Ano23-97] Anonymous. Cover 3. *IEEE Spectrum*, 60(10):CV3, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbt

[Ano23-98] Anonymous. Cover 3. *IEEE Spectrum*, 60(11):CV3, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cby

[Ano23-99] Anonymous. Cover 3. *IEEE Spectrum*, 60(12):CV3, December 2023. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ce

[Ano23-100] Anonymous. Cover 4. *IEEE Spectrum*, 60(1):CV4, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cj

[Ano23-101] Anonymous. Cover 4. *IEEE Spectrum*, 60(3):CV4, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Co

[Ano23-102] Anonymous. Cover 4. *IEEE Spectrum*, 60(4):CV4, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ct

[Ano23-103] Anonymous. Cover 4. *IEEE Spectrum*, 60(5):CV4, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cy

[Ano23-104] Anonymous. Cover 4. *IEEE Spectrum*, 60(6):CV4, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbd

[Ano23-105] Anonymous. Cover 4. *IEEE Spectrum*, 60(7):1, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbp

[Ano23-106] Anonymous. Cover 4. *IEEE Spectrum*, 60(10):CV4, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbu

[Ano23-107] Anonymous. Cover 4. *IEEE Spectrum*, 60(11):CV4, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbz

[Ano23-108] Anonymous. Cover 4. *IEEE Spectrum*, 60(12):CV4, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbg

[Ano23-109] Anonymous. Cover2. *IEEE Spectrum*, 60(9):1, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbj

[Ano23-110] Anonymous. Cover3. *IEEE Spectrum*, 60(9):1, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Cbk

[Ano23-111] Anonymous. Cover4. *IEEE Spectrum*, 60(9):1, September 2023.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCa

[Ano23-112] Anonymous. Front cover. *IEEE Spectrum*, 60(1):1, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCb

[Ano23-113] Anonymous. Front cover. *IEEE Spectrum*, 60(3):1, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCc

[Ano23-114] Anonymous. Front cover. *IEEE Spectrum*, 60(4):1, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCd

[Ano23-115] Anonymous. Front cover. *IEEE Spectrum*, 60(5):1, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCe

[Ano23-116] Anonymous. Front cover. *IEEE Spectrum*, 60(6):1, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCf

[Ano23-117] Anonymous. Front cover. *IEEE Spectrum*, 60(7):1, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCg

[Ano23-118] Anonymous. Front cover. *IEEE Spectrum*, 60(8):1, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCh

[Ano23-119] Anonymous. Front cover. *IEEE Spectrum*, 60(9):1, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCi

[Ano23-120] Anonymous. Front cover. *IEEE Spectrum*, 60(10):1, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCj

[Ano23-121] Anonymous. Front cover. *IEEE Spectrum*, 60(11):1, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:FCk

[Ano23-122] Anonymous. Front cover. *IEEE Spectrum*, 60(12):1, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Ma

[Ano23-123] Anonymous. Masthead. *IEEE Spectrum*, 60(1):6, January 2023.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mb

[Ano23-124] Anonymous. Masthead. *IEEE Spectrum*, 60(3):4, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mc

[Ano23-125] Anonymous. Masthead. *IEEE Spectrum*, 60(4):4, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Md

[Ano23-126] Anonymous. Masthead. *IEEE Spectrum*, 60(5):4, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Me

[Ano23-127] Anonymous. Masthead. *IEEE Spectrum*, 60(6):4, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mf

[Ano23-128] Anonymous. Masthead. *IEEE Spectrum*, 60(7):4, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mg

[Ano23-129] Anonymous. Masthead. *IEEE Spectrum*, 60(8):4, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mh

[Ano23-130] Anonymous. Masthead. *IEEE Spectrum*, 60(9):4, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mi

[Ano23-131] Anonymous. Masthead. *IEEE Spectrum*, 60(10):4, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:Mj

[Ano23-132] Anonymous. Masthead. *IEEE Spectrum*, 60(11):4, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:OA

[Ano23-133] Anonymous. Ode to an arm. *IEEE Spectrum*, 60(8):52, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:PF

[Ano23-134] Anonymous. Past forward. *IEEE Spectrum*, 60(9):68, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:S

[Ano23-135] Anonymous. Staff. *IEEE Spectrum*, 60(12):4, December 2023.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:TT

[Ano23-136] Anonymous. Top tech 2023. *IEEE Spectrum*, 60(1):23, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2023:WPH

[Ano23-137] Anonymous. Wind-powered home heating. *IEEE Spectrum*, 60(8):14–15, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aa

[Ano24a] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):3, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ab

[Ano24b] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):5, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ac

[Ano24c] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):21, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ad

[Ano24d] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):59, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ae

[Ano24e] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):60, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Af

[Ano24f] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):61, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ag

[Ano24g] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):62, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ah

[Ano24h] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):63, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ai

[Ano24i] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):1, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aj

[Ano24j] Anonymous. Advertisement. *IEEE Spectrum*, 61(01):1, January 2024. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ak

[Ano24k] Anonymous. Advertisement. *IEEE Spectrum*, 61(2):3, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Al

[Ano24l] Anonymous. Advertisement. *IEEE Spectrum*, 61(2):35, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Am

[Ano24m] Anonymous. Advertisement. *IEEE Spectrum*, 61(2):47, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:An

[Ano24n] Anonymous. Advertisement. *IEEE Spectrum*, 61(3):3, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ao

[Ano24o] Anonymous. Advertisement. *IEEE Spectrum*, 61(3):13, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ap

[Ano24p] Anonymous. Advertisement. *IEEE Spectrum*, 61(3):63, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aq

[Ano24q] Anonymous. Advertisement. *IEEE Spectrum*, 61(4):3, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ar

[Ano24r] Anonymous. Advertisement. *IEEE Spectrum*, 61(4):5, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:As

[Ano24s] Anonymous. Advertisement. *IEEE Spectrum*, 61(4):51, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:At

[Ano24t] Anonymous. Advertisement. *IEEE Spectrum*, 61(5):3, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Au

[Ano24u] Anonymous. Advertisement. *IEEE Spectrum*, 61(5):35, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Av

[Ano24v] Anonymous. Advertisement. *IEEE Spectrum*, 61(5):58, May 2024. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aw

[Ano24w] Anonymous. Advertisement. *IEEE Spectrum*, 61(5):59, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ax

[Ano24x] Anonymous. Advertisement. *IEEE Spectrum*, 61(6):3, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ay

[Ano24y] Anonymous. Advertisement. *IEEE Spectrum*, 61(6):5, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Az

[Ano24z] Anonymous. Advertisement. *IEEE Spectrum*, 61(6):67, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aba

[Ano24-27] Anonymous. Advertisement. *IEEE Spectrum*, 61(7):3, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abb

[Ano24-28] Anonymous. Advertisement. *IEEE Spectrum*, 61(7):13, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abc

[Ano24-29] Anonymous. Advertisement. *IEEE Spectrum*, 61(8):3, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abd

[Ano24-30] Anonymous. Advertisement. *IEEE Spectrum*, 61(8):5, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abe

[Ano24-31] Anonymous. Advertisement. *IEEE Spectrum*, 61(8):15, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abf

[Ano24-32] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):3, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abg

[Ano24-33] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):13, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abh

[Ano24-34] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):21, September 2024. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abi

[Ano24-35] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):48, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abj

[Ano24-36] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):65, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abk

[Ano24-37] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):66, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abl

[Ano24-38] Anonymous. Advertisement. *IEEE Spectrum*, 61(9):67, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abm

[Ano24-39] Anonymous. Advertisement. *IEEE Spectrum*, 61(10):3, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abn

[Ano24-40] Anonymous. Advertisement. *IEEE Spectrum*, 61(10):13, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abo

[Ano24-41] Anonymous. Advertisement. *IEEE Spectrum*, 61(10):46, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abp

[Ano24-42] Anonymous. Advertisement. *IEEE Spectrum*, 61(10):47, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abq

[Ano24-43] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):3, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abr

[Ano24-44] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):13, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abs

[Ano24-45] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):17, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abt

[Ano24-46] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):23, November 2024. CODEN

IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abu

[Ano24-47] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):71, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abv

[Ano24-48] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):72, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abw

[Ano24-49] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):73, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abx

[Ano24-50] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):74, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aby

[Ano24-51] Anonymous. Advertisement. *IEEE Spectrum*, 61(11):75, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Abz

[Ano24-52] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):3, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Aca

[Ano24-53] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):6, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Acb

[Ano24-54] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):15, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Acc

[Ano24-55] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):31, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Acd

[Ano24-56] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):67, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ace

[Ano24-57] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):68, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Acf

[Ano24-58] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):69, December 2024. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Acg

[Ano24-59] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):70, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ach

[Ano24-60] Anonymous. Advertisement. *IEEE Spectrum*, 61(12):71, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cb

[Ano24-61] Anonymous. Contents. *IEEE Spectrum*, 61(01):1–2, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ce

[Ano24-62] Anonymous. Contents. *IEEE Spectrum*, 61(2):1, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cj

[Ano24-63] Anonymous. Contents. *IEEE Spectrum*, 61(3):1, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Co

[Ano24-64] Anonymous. Contents. *IEEE Spectrum*, 61(4):1, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ct

[Ano24-65] Anonymous. Contents. *IEEE Spectrum*, 61(5):1, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cy

[Ano24-66] Anonymous. Contents. *IEEE Spectrum*, 61(6):1, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbd

[Ano24-67] Anonymous. Contents. *IEEE Spectrum*, 61(7):1, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbi

[Ano24-68] Anonymous. Contents. *IEEE Spectrum*, 61(8):1, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbn

[Ano24-69] Anonymous. Contents. *IEEE Spectrum*, 61(9):1, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbs

[Ano24-70] Anonymous. Contents. *IEEE Spectrum*, 61(10):1, October

2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbx

[Ano24-71] Anonymous. Contents. *IEEE Spectrum*, 61(11):1, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ccc

[Ano24-72] Anonymous. Contents. *IEEE Spectrum*, 61(12):1, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cc

[Ano24-73] Anonymous. Contributors. *IEEE Spectrum*, 61(01):6, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cf

[Ano24-74] Anonymous. Contributors. *IEEE Spectrum*, 61(2):4, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ck

[Ano24-75] Anonymous. Contributors. *IEEE Spectrum*, 61(3):4, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cp

[Ano24-76] Anonymous. Contributors. *IEEE Spectrum*, 61(4):4, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cu

[Ano24-77] Anonymous. Contributors. *IEEE Spectrum*, 61(5):4, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cz

[Ano24-78] Anonymous. Contributors. *IEEE Spectrum*, 61(6):4, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbe

[Ano24-79] Anonymous. Contributors. *IEEE Spectrum*, 61(7):4, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbj

[Ano24-80] Anonymous. Contributors. *IEEE Spectrum*, 61(8):4, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbo

[Ano24-81] Anonymous. Contributors. *IEEE Spectrum*, 61(9):4, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbt

[Ano24-82] Anonymous. Contributors. *IEEE Spectrum*, 61(10):4, October

2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cby

[Ano24-83] Anonymous. Contributors. *IEEE Spectrum*, 61(11):4, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ccd

[Ano24-84] Anonymous. Contributors. *IEEE Spectrum*, 61(12):5, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cd

[Ano24-85] Anonymous. Cover 2. *IEEE Spectrum*, 61(2):CV2, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ci

[Ano24-86] Anonymous. Cover 2. *IEEE Spectrum*, 61(3):CV2, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cn

[Ano24-87] Anonymous. Cover 2. *IEEE Spectrum*, 61(4):CV2, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cs

[Ano24-88] Anonymous. Cover 2. *IEEE Spectrum*, 61(5):CV2, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cx

[Ano24-89] Anonymous. Cover 2. *IEEE Spectrum*, 61(6):CV2, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbc

[Ano24-90] Anonymous. Cover 2. *IEEE Spectrum*, 61(7):CV2, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbh

[Ano24-91] Anonymous. Cover 2. *IEEE Spectrum*, 61(8):CV2, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbm

[Ano24-92] Anonymous. Cover 2. *IEEE Spectrum*, 61(9):CV2, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbr

[Ano24-93] Anonymous. Cover 2. *IEEE Spectrum*, 61(10):CV2, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbw

[Ano24-94] Anonymous. Cover 2. *IEEE Spectrum*, 61(11):CV2, November 2024. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ccb

[Ano24-95] Anonymous. Cover 2. *IEEE Spectrum*, 61(12):CV2, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cg

[Ano24-96] Anonymous. Cover 3. *IEEE Spectrum*, 61(2):CV3, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cl

[Ano24-97] Anonymous. Cover 3. *IEEE Spectrum*, 61(3):CV3, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cq

[Ano24-98] Anonymous. Cover 3. *IEEE Spectrum*, 61(4):CV3, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cv

[Ano24-99] Anonymous. Cover 3. *IEEE Spectrum*, 61(5):CV3, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cba

[Ano24-100] Anonymous. Cover 3. *IEEE Spectrum*, 61(6):CV3, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbf

[Ano24-101] Anonymous. Cover 3. *IEEE Spectrum*, 61(7):CV3, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbk

[Ano24-102] Anonymous. Cover 3. *IEEE Spectrum*, 61(8):CV3, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbp

[Ano24-103] Anonymous. Cover 3. *IEEE Spectrum*, 61(9):CV3, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbu

[Ano24-104] Anonymous. Cover 3. *IEEE Spectrum*, 61(10):CV3, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbz

[Ano24-105] Anonymous. Cover 3. *IEEE Spectrum*, 61(11):CV3, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cce

[Ano24-106] Anonymous. Cover 3. *IEEE Spectrum*, 61(12):CV3, December 2024. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ch

[Ano24-107] Anonymous. Cover 4. *IEEE Spectrum*, 61(2):CV4, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cm

[Ano24-108] Anonymous. Cover 4. *IEEE Spectrum*, 61(3):CV4, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cr

[Ano24-109] Anonymous. Cover 4. *IEEE Spectrum*, 61(4):CV4, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cw

[Ano24-110] Anonymous. Cover 4. *IEEE Spectrum*, 61(5):CV4, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbb

[Ano24-111] Anonymous. Cover 4. *IEEE Spectrum*, 61(6):CV4, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbg

[Ano24-112] Anonymous. Cover 4. *IEEE Spectrum*, 61(7):CV4, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbl

[Ano24-113] Anonymous. Cover 4. *IEEE Spectrum*, 61(8):CV4, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbq

[Ano24-114] Anonymous. Cover 4. *IEEE Spectrum*, 61(9):CV4, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cbv

[Ano24-115] Anonymous. Cover 4. *IEEE Spectrum*, 61(10):CV4, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Cca

[Ano24-116] Anonymous. Cover 4. *IEEE Spectrum*, 61(11):CV4, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ccf

[Ano24-117] Anonymous. Cover 4. *IEEE Spectrum*, 61(12):CV4, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ca

[Ano24-118] Anonymous. Cover2. *IEEE Spectrum*, 61(01):1, January 2024.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCa

[Ano24-119] Anonymous. Front cover. *IEEE Spectrum*, 61(01):1, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCb

[Ano24-120] Anonymous. Front cover. *IEEE Spectrum*, 61(2):1, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCc

[Ano24-121] Anonymous. Front cover. *IEEE Spectrum*, 61(3):1, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCd

[Ano24-122] Anonymous. Front cover. *IEEE Spectrum*, 61(4):1, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCe

[Ano24-123] Anonymous. Front cover. *IEEE Spectrum*, 61(5):1, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCf

[Ano24-124] Anonymous. Front cover. *IEEE Spectrum*, 61(6):1, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCg

[Ano24-125] Anonymous. Front cover. *IEEE Spectrum*, 61(7):1, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCh

[Ano24-126] Anonymous. Front cover. *IEEE Spectrum*, 61(8):1, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCi

[Ano24-127] Anonymous. Front cover. *IEEE Spectrum*, 61(9):1, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCj

[Ano24-128] Anonymous. Front cover. *IEEE Spectrum*, 61(10):1, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCk

[Ano24-129] Anonymous. Front cover. *IEEE Spectrum*, 61(11):1, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:FCl

[Ano24-130] Anonymous. Front cover. *IEEE Spectrum*, 61(12):1, December

2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ma

[Ano24-131] Anonymous. Masthead. *IEEE Spectrum*, 61(01):6, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mb

[Ano24-132] Anonymous. Masthead. *IEEE Spectrum*, 61(2):4, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mc

[Ano24-133] Anonymous. Masthead. *IEEE Spectrum*, 61(3):4, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Md

[Ano24-134] Anonymous. Masthead. *IEEE Spectrum*, 61(4):4, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Me

[Ano24-135] Anonymous. Masthead. *IEEE Spectrum*, 61(5):4, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mf

[Ano24-136] Anonymous. Masthead. *IEEE Spectrum*, 61(6):4, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mg

[Ano24-137] Anonymous. Masthead. *IEEE Spectrum*, 61(7):4, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mh

[Ano24-138] Anonymous. Masthead. *IEEE Spectrum*, 61(8):4, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mi

[Ano24-139] Anonymous. Masthead. *IEEE Spectrum*, 61(9):4, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mj

[Ano24-140] Anonymous. Masthead. *IEEE Spectrum*, 61(10):4, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Mk

[Ano24-141] Anonymous. Masthead. *IEEE Spectrum*, 61(11):4, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:Ml

[Ano24-142] Anonymous. Masthead. *IEEE Spectrum*, 61(12):5, December

2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:MM

[Ano24-143] Anonymous. Mechanical megatalent. *IEEE Spectrum*, 61(4): 14–15, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:MEV

[Ano24-144] Anonymous. A mouse's-eye view. *IEEE Spectrum*, 61 (3):14–15, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:TVE

[Ano24-145] Anonymous. A taste of Venus on Earth. *IEEE Spectrum*, 61 (2):14–15, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2024:TT

[Ano24-146] Anonymous. Top tech 2024. *IEEE Spectrum*, 61(01):23, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Aa

[Ano25a] Anonymous. Advertisement. *IEEE Spectrum*, 62(1):3, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ab

[Ano25b] Anonymous. Advertisement. *IEEE Spectrum*, 62(1):5, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ac

[Ano25c] Anonymous. Advertisement. *IEEE Spectrum*, 62(1):54, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ad

[Ano25d] Anonymous. Advertisement. *IEEE Spectrum*, 62(1):55, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ae

[Ano25e] Anonymous. Advertisement. *IEEE Spectrum*, 62(2):3, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Af

[Ano25f] Anonymous. Advertisement. *IEEE Spectrum*, 62(3):3, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ag

[Ano25g] Anonymous. Advertisement. *IEEE Spectrum*, 62(3):59, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ah

[Ano25h] Anonymous. Advertisement. *IEEE Spectrum*, 62(4):3, April 2025. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ai

[Ano25i] Anonymous. Advertisement. *IEEE Spectrum*, 62(4):13, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Aj

[Ano25j] Anonymous. Advertisement. *IEEE Spectrum*, 62(5):3, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ak

[Ano25k] Anonymous. Advertisement. *IEEE Spectrum*, 62(5):21, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Al

[Ano25l] Anonymous. Advertisement. *IEEE Spectrum*, 62(5):53, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Am

[Ano25m] Anonymous. Advertisement. *IEEE Spectrum*, 62(5):55, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:An

[Ano25n] Anonymous. Advertisement. *IEEE Spectrum*, 62(6):3, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ao

[Ano25o] Anonymous. Advertisement. *IEEE Spectrum*, 62(6):13, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ap

[Ano25p] Anonymous. Advertisement. *IEEE Spectrum*, 62(7):3, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Aq

[Ano25q] Anonymous. Advertisement. *IEEE Spectrum*, 62(7):13, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ar

[Ano25r] Anonymous. Advertisement. *IEEE Spectrum*, 62(7):49, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:As

[Ano25s] Anonymous. Advertisement. *IEEE Spectrum*, 62(7):50, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:At

[Ano25t] Anonymous. Advertisement. *IEEE Spectrum*, 62(7):51, July 2025. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Au

[Ano25u] Anonymous. Advertisement. *IEEE Spectrum*, 62(8):3, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Av

[Ano25v] Anonymous. Advertisement. *IEEE Spectrum*, 62(9):3, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Aw

[Ano25w] Anonymous. Advertisement. *IEEE Spectrum*, 62(9):13, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ax

[Ano25x] Anonymous. Advertisement. *IEEE Spectrum*, 62(9):67, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ay

[Ano25y] Anonymous. Advertisement. *IEEE Spectrum*, 62(10):3, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Az

[Ano25z] Anonymous. Advertisement. *IEEE Spectrum*, 62(10):5, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Aba

[Ano25-27] Anonymous. Advertisement. *IEEE Spectrum*, 62(10):29, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Abb

[Ano25-28] Anonymous. Advertisement. *IEEE Spectrum*, 62(10):73, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Abc

[Ano25-29] Anonymous. Advertisement. *IEEE Spectrum*, 62(10):74, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Abd

[Ano25-30] Anonymous. Advertisement. *IEEE Spectrum*, 62(10):75, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cb

[Ano25-31] Anonymous. Contents. *IEEE Spectrum*, 62(1):1, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cg

[Ano25-32] Anonymous. Contents. *IEEE Spectrum*, 62(2):1, February 2025. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cl

[Ano25-33] Anonymous. Contents. *IEEE Spectrum*, 62(3):1, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cq

[Ano25-34] Anonymous. Contents. *IEEE Spectrum*, 62(4):1, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cv

[Ano25-35] Anonymous. Contents. *IEEE Spectrum*, 62(5):1, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cba

[Ano25-36] Anonymous. Contents. *IEEE Spectrum*, 62(6):1, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbf

[Ano25-37] Anonymous. Contents. *IEEE Spectrum*, 62(7):1, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbk

[Ano25-38] Anonymous. Contents. *IEEE Spectrum*, 62(8):1, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbp

[Ano25-39] Anonymous. Contents. *IEEE Spectrum*, 62(9):1, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbu

[Ano25-40] Anonymous. Contents. *IEEE Spectrum*, 62(10):1–2, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cc

[Ano25-41] Anonymous. Contributors. *IEEE Spectrum*, 62(1):6, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ch

[Ano25-42] Anonymous. Contributors. *IEEE Spectrum*, 62(2):4, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cm

[Ano25-43] Anonymous. Contributors. *IEEE Spectrum*, 62(3):4, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cr

[Ano25-44] Anonymous. Contributors. *IEEE Spectrum*, 62(4):4, April 2025.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cw

[Ano25-45] Anonymous. Contributors. *IEEE Spectrum*, 62(5):4, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbb

[Ano25-46] Anonymous. Contributors. *IEEE Spectrum*, 62(6):4, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbg

[Ano25-47] Anonymous. Contributors. *IEEE Spectrum*, 62(7):4, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbl

[Ano25-48] Anonymous. Contributors. *IEEE Spectrum*, 62(8):4, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbq

[Ano25-49] Anonymous. Contributors. *IEEE Spectrum*, 62(9):4, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbv

[Ano25-50] Anonymous. Contributors. *IEEE Spectrum*, 62(10):6, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ca

[Ano25-51] Anonymous. Cover 2. *IEEE Spectrum*, 62(1):CV2, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ck

[Ano25-52] Anonymous. Cover 2. *IEEE Spectrum*, 62(3):CV2, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cp

[Ano25-53] Anonymous. Cover 2. *IEEE Spectrum*, 62(4):CV2, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cu

[Ano25-54] Anonymous. Cover 2. *IEEE Spectrum*, 62(5):CV2, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cz

[Ano25-55] Anonymous. Cover 2. *IEEE Spectrum*, 62(6):CV2, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbe

[Ano25-56] Anonymous. Cover 2. *IEEE Spectrum*, 62(7):CV2, July 2025.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbj

[Ano25-57] Anonymous. Cover 2. *IEEE Spectrum*, 62(8):CV2, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbo

[Ano25-58] Anonymous. Cover 2. *IEEE Spectrum*, 62(9):CV2, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbt

[Ano25-59] Anonymous. Cover 2. *IEEE Spectrum*, 62(10):CV2, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cd

[Ano25-60] Anonymous. Cover 3. *IEEE Spectrum*, 62(1):CV3, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cn

[Ano25-61] Anonymous. Cover 3. *IEEE Spectrum*, 62(3):CV3, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cs

[Ano25-62] Anonymous. Cover 3. *IEEE Spectrum*, 62(4):CV3, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cx

[Ano25-63] Anonymous. Cover 3. *IEEE Spectrum*, 62(5):CV3, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbc

[Ano25-64] Anonymous. Cover 3. *IEEE Spectrum*, 62(6):CV3, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbh

[Ano25-65] Anonymous. Cover 3. *IEEE Spectrum*, 62(7):CV3, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbm

[Ano25-66] Anonymous. Cover 3. *IEEE Spectrum*, 62(8):CV3, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbr

[Ano25-67] Anonymous. Cover 3. *IEEE Spectrum*, 62(9):CV3, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbw

[Ano25-68] Anonymous. Cover 3. *IEEE Spectrum*, 62(10):CV3, October 2025. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ce

[Ano25-69] Anonymous. Cover 4. *IEEE Spectrum*, 62(1):CV4, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Co

[Ano25-70] Anonymous. Cover 4. *IEEE Spectrum*, 62(3):CV4, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ct

[Ano25-71] Anonymous. Cover 4. *IEEE Spectrum*, 62(4):CV4, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cy

[Ano25-72] Anonymous. Cover 4. *IEEE Spectrum*, 62(5):CV4, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbd

[Ano25-73] Anonymous. Cover 4. *IEEE Spectrum*, 62(6):CV4, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbi

[Ano25-74] Anonymous. Cover 4. *IEEE Spectrum*, 62(7):CV4, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbn

[Ano25-75] Anonymous. Cover 4. *IEEE Spectrum*, 62(8):CV4, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbs

[Ano25-76] Anonymous. Cover 4. *IEEE Spectrum*, 62(9):CV4, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cbx

[Ano25-77] Anonymous. Cover 4. *IEEE Spectrum*, 62(10):CV4, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cf

[Ano25-78] Anonymous. Cover2. *IEEE Spectrum*, 62(2):CV2, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ci

[Ano25-79] Anonymous. Cover3. *IEEE Spectrum*, 62(2):CV03, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Cj

[Ano25-80] Anonymous. Cover4. *IEEE Spectrum*, 62(2):CV4, February 2025.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCa

[Ano25-81] Anonymous. Front cover. *IEEE Spectrum*, 62(1):1, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCb

[Ano25-82] Anonymous. Front cover. *IEEE Spectrum*, 62(2):CS1, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCc

[Ano25-83] Anonymous. Front cover. *IEEE Spectrum*, 62(3):1, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCd

[Ano25-84] Anonymous. Front cover. *IEEE Spectrum*, 62(4):1, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCe

[Ano25-85] Anonymous. Front cover. *IEEE Spectrum*, 62(5):1, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCf

[Ano25-86] Anonymous. Front cover. *IEEE Spectrum*, 62(6):C1, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCg

[Ano25-87] Anonymous. Front cover. *IEEE Spectrum*, 62(7):C1, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCh

[Ano25-88] Anonymous. Front cover. *IEEE Spectrum*, 62(8):C1, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCi

[Ano25-89] Anonymous. Front cover. *IEEE Spectrum*, 62(9):C1, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:FCj

[Ano25-90] Anonymous. Front cover. *IEEE Spectrum*, 62(10):C1, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Ma

[Ano25-91] Anonymous. Masthead. *IEEE Spectrum*, 62(1):6, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mb

[Ano25-92] Anonymous. Masthead. *IEEE Spectrum*, 62(2):4, February

2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mc

[Ano25-93] Anonymous. Masthead. *IEEE Spectrum*, 62(3):4, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Md

[Ano25-94] Anonymous. Masthead. *IEEE Spectrum*, 62(4):4, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Me

[Ano25-95] Anonymous. Masthead. *IEEE Spectrum*, 62(5):4, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mf

[Ano25-96] Anonymous. Masthead. *IEEE Spectrum*, 62(6):4, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mg

[Ano25-97] Anonymous. Masthead. *IEEE Spectrum*, 62(7):4, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mh

[Ano25-98] Anonymous. Masthead. *IEEE Spectrum*, 62(8):4, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mi

[Ano25-99] Anonymous. Masthead. *IEEE Spectrum*, 62(9):4, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:Mj

[Ano25-100] Anonymous. Masthead. *IEEE Spectrum*, 62(10):6, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:SI

[Ano25-101] Anonymous. The scale issue. *IEEE Spectrum*, 62(10): 22–23, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Anonymous:2025:SPT

[Ano25-102] Anonymous. The student & the professor: Two perspectives on engineering education in Africa. *IEEE Spectrum*, 62(9): 36–37, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Armstrong:2020:VDS

[Arm20] C. M. Armstrong. These vacuum devices stood guard during the Cold War, advanced particle physics, treated cancer patients, and made the Beatles sound better. *IEEE Spectrum*, 57(11): 30–36, November 2020. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Aronstein:2024:FSF

[Aro24] Jesse Aronstein. The forgotten story of the first automated fab: In 1970, an IBM middle manager had a vision: a finished chip in one day. *IEEE Spectrum*, 61 (12):44–50, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:Na

[ARPH22] Evan Ackerman, Rahul Rao, Julianne Pepitone, and Michelle Hampson. News. *IEEE Spectrum*, 59(5):7–13, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:YRW

[AS22] Evan Ackerman and Eliza Strickland. Are you ready for workplace brain scanning?: Leveraging brain data will make workers happier and more productive, backers say. *IEEE Spectrum*, 59 (12):46–52, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ashruf:2023:CTP

[Ash23] Colin Ashruf. Careers: 10 tips for product development: Getting to market requires more than clever engineering. *IEEE Spectrum*, 60(4):19–20, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ackerman:2022:TWB

[AZPC22] Evan Ackerman, Glenn Zorpette, Julianne Pepitone, and Charles Q. Choi. Transportation: What's behind the air-taxi craze: a wave of eVTOL startups aim to revolutionize transportation. *IEEE Spectrum*, 59(3):6–13, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bainomugisha:2025:LML

[Bai25] Engineer Bainomugisha. Learning more with less: How improving access to electronics hardware could transform engineering education in Africa. *IEEE Spectrum*, 62(9):40–50, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bajema:2022:WAS

[Baj22] Natasha Bajema. Will AI steal submarines' stealth?: Better detection will make the oceans transparent and perhaps undermine nuclear deterrence. *IEEE Spectrum*, 59(9):36–41, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bajema:2024:NMH

[Baj24] Natasha Bajema. No more hide-and-seek: The scramble to preserve submarine stealth in an age of AI and all-seeing sensors. *IEEE Spectrum*, 61(12): 24–30, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Barger:2020:TRT

[Bar20] T. S. Barger. Turning robots into teacher's aides: Christian Wanamaker's robotics software helps students on the autism spectrum — careers. *IEEE Spectrum*, 57(3):19, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Barde:2024:CSS

[Bar24] Henri Barde. Castles in the sky?: a skeptic's take on beaming power to earth from space. *IEEE Spectrum*, 61(6):22–29, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Baur:2024:URL

[Bau24] Jasper Baur. Ukraine is riddled with land mines: Drones and AI can help. *IEEE Spectrum*, 61(5):42–49, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Baramsai:2022:NNS

[BBFS22] Bayarbadrakh Baramsai, Theresa Benyo, Lawrence Forsley, and Bruce Steinetz. NASA's new shortcut to fusion power: Lattice confinement fusion eliminates massive magnets and powerful lasers. *IEEE Spectrum*, 59(3):32–37, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bicknell:2023:HDA

[BBS23] Klinton Bicknell, Claire Brust, and Burr Settles. How Duolingo's AI learns what you need to learn: The language-learning app tries to emulate a great human tutor. *IEEE Spectrum*, 60(3):28–33, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Berlinguette:2019:RCC

[BCM+19] Curtis P. Berlinguette, Yet-Ming Chiang, Jeremy N. Munday, Thomas Schenkel, David K. Fork, Ross Koningstein, and Matthew D. Trevithick. Revisiting the cold case of cold fusion. *Nature*, 570(7759):45–51, May 2019. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic).

Balossino:2022:MND

[BD22] Alessandro Balossino and Faramaz Davarian. The Moon needs decent wireless coverage: Argotec and JPL's relay satellites could deliver bandwidth for more than 90 missions. *IEEE Spectrum*, 59(4):32–37, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Beane:2022:TRS

[Bea22] Matt Beane. Today's robotic surgery turns surgical trainees into spectators: Medical training in the robotics age leaves tomorrow's surgeons short on skills. *IEEE Spectrum*, 59 (8):32–37, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Barth:2024:IMT

[BF24] Phillip W. Barth and Leslie A. Field. Inkjets are for more than just printing: They can build DNA arrays, 3D structures, and much more. *IEEE Spectrum*, 61(4):32–37, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bajema:2021:N

[BGR+21] Natasha Bajema, Maria Gallucci, Rahul Rao, Philip E. Ross, and Michelle Hampson. News. *IEEE Spectrum*, 58 (6):6–13, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bajema:2024:N

[BJZM24] Natasha Bajema, Andrew Jones, Glenn Zorpette, and Samuel K. Moore. News. *IEEE Spectrum*, 61(5):5–13, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Blanchard:2025:URN

[Bla25] James Blanchard. The unlikely revival of nuclear batteries: Startups plan to put them in robots, sensors, and medical implants. *IEEE Spectrum*, 62 (9):42–48, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bilen:2020:WNR

[BMRW20] S. Bilen, D. Mortensen, R. Reinhart, and A. Wyglinski. Where no radio has gone before: Cognitive radios can keep deep-space missions connected to earth even when faced with alien environments. *IEEE Spectrum*, 57 (8):44–50, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bogard:2025:FFS

[Bog25] Paul Bogard. Face to face with the scale of the cosmos: Chile's dark skies remind us of what billions have already lost. *IEEE Spectrum*, 62(10):66–71, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Boris:2024:TCY

[Bor24] Alan Boris. Take control of your home: Escape proprietary smart-home tech with this DIY panel. *IEEE Spectrum*, 61(9): 16–18, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bouman:2020:PBH

[Bou20] K. L. Bouman. Portrait of a black hole: Here's how the event horizon telescope team pieced together a now-famous image. *IEEE Spectrum*, 57(2): 22–29, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bouton:2021:BIW

[Bou21] C. Bouton. Brain implants and wearables reroute signals to restore movement and sensation. *IEEE Spectrum*, 58(2): 28–33, February 2021. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bowman:2021:CBB

[Bow21] Keith A. Bowman. A circuit to boost battery life: All-digital versions of the low-dropout voltage regulator will save time, money, and power. *IEEE Spectrum*, 58(8):40–45, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Boyd:2024:FML

[Boy24] John Boyd. Is the future of Moore's Law in a particle accelerator?: Wiggling electrons could turbocharge EUV lithography. *IEEE Spectrum*, 61(7):28–33, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brand:2021:RCH

[Bra21] J. Brand. The radio that can hear over itself: Self-interference cancellation allows radios to transmit and receive on the same frequency. *IEEE Spectrum*, 58 (3):30–35, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brewster:2020:PFS

[Bre20] R. Brewster. Past forward [the SCR-536 Handie-Talkie]. *IEEE Spectrum*, 57(10):72, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brooks:2021:HLA

[Bro21] Rodney Brooks. A human in the loop: AI won't surpass human intelligence anytime soon. *IEEE Spectrum*, 58(10):48–49, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brooks:2022:LRO

[Bro22a] Rodney Brooks. The long road to overnight success: Reusable rocket boosters were decades in the making. *IEEE Spectrum*, 59(4):20–21, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brooks:2022:MMN

[Bro22b] Rodney Brooks. Myth and machine: 22 November 1935: The day globalism was born: Juan Trippe's Pan Am Clippers launched a new era. *IEEE Spectrum*, 59(6):22–23, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brooks:2022:MMB

[Bro22c] Rodney Brooks. Myth and machine: Building boom: Population growth and climate change have an upside. *IEEE Spectrum*, 59(3):23, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brooks:2022:MMO

[Bro22d] Rodney Brooks. Myth and machine: The other side of the Innovator's Dilemma: Beware the quiet disruptors. *IEEE Spectrum*, 59(7):20–21, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brock:2023:MTC

[Bro23a] David C. Brock. The machine that transformed computing: The Xerox Alto combined windows, WYSIWYG, menus, and networking to make the modern PC. *IEEE Spectrum*, 60(3):40–45, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Brock:2023:PF

[Bro23b] David C. Brock. Past forward. *IEEE Spectrum*, 60(3):68, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Broo:2023:HGA

[Bro23c] Didem Gürdür Broo. How generative AI helped me imagine a better robot: It didn't give me schematics, but it did boost my creativity. *IEEE Spectrum*, 60 (11):44–50, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Biercuk:2022:QEC

[BS22] Michael J. Biercuk and Thomas M. Stace. Quantum error correction at the threshold: If technologists don't get beyond it, quantum computers will never be big. *IEEE Spectrum*, 59(7):28–46, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Burr:2021:OLK

[BSAH21] Geoffrey W. Burr, Abu Sebastian, Takashi Ando, and Wilfried Haensch. Ohm's Law + Kirchhoff's current law = better AI: Neural-network processing done in memory with analog circuits will save energy. *IEEE Spectrum*, 58(12):44–49, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Bajema:2022:ARW

[BSG22] Natasha Bajema, Craig S. Smith, and Dan Garisto. AI's real worst-case scenarios: Who needs Terminators when you have precision clickbait and ultra-deepfakes? *IEEE Spectrum*, 59 (1):8–14, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Baets:2023:WPL

[BVKR23] Roel Baets, Joris Van Campenhout, Bernardette Kunert, and Gunther Roelkens. 4 ways to put lasers on silicon: You can make many things with silicon photonics, but a laser is not one of them. *IEEE Spectrum*, 60(5):32–37, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Caballar:2024:WND

[Cab24] Rina Diane Caballar. We need to decarbonize software: The way we write software has unappreciated environmental impacts. *IEEE Spectrum*, 61 (4):26–31, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Calaiaro:2022:ATD

[Cal22] Jason Calaiaro. AI takes a dumpster dive: Computer-vision systems sort your recyclables at superhuman speed. *IEEE Spectrum*, 59(7):22–27, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Calacci:2024:GWW

[Cal24] Dana Calacci. The GIG workers who fought an algorithm: When their pay suddenly dropped, Shipt's delivery drivers dug into the data. *IEEE Spectrum*, 61 (8):42–47, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Caballar:2025:N

[CAM+25] Rina Diane Caballar, Evan Ackerman, Samuel K. Moore, Michelle Hampson, Amos Zeeberg, and Rachel Berkowitz. News. *IEEE Spectrum*, 62 (1):7–14, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Carlson:2024:WRD

[Car24] Rob Carlson. The world is running out of data storage. here's how DNA can save US. *IEEE Spectrum*, 61(3):28–44, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:GLW

[Cas20a] S. Cass. Geek life: Write a program in a single tweet: What can you code in 280 characters? *IEEE Spectrum*, 57(5):54, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:LTA

[Cas20b] S. Cass. Let a thousand analog oscillators sing: Sam Battle, champion of analog engineering — [Geek Life]. *IEEE Spectrum*, 57(10):15, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:LM

[Cas20c] S. Cass. Life on Mars? *IEEE Spectrum*, 57(1):42–43, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:NMI

[Cas20d] S. Cass. Nvidia makes it easy to embed AI: The Jetson nano packs a lot of machine-learning power into DIY projects — [hands on]. *IEEE Spectrum*, 57(7):14–16, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:OCB

[Cas20e] S. Cass. Oscilloscope clock: Build a vector-graphics display using an old cathode-ray tube — [hands on]. *IEEE Spectrum*, 57

(1):14–16, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:PFP

[Cas20f] S. Cass. Painless FPGA programming: The alchitry AU kit can simplify projects that need a lot of input/output — [hands on]. *IEEE Spectrum*, 57(12): 18–20, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:PEA

[Cas20g] S. Cass. Plotting experiments: The AxiDraw minikit is the X–Y plotter you didn't know you wanted — [hands on]. *IEEE Spectrum*, 57(9):16–18, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:SSR

[Cas20h] S. Cass. The Sinclair Scientific, remade: a classic calculator was reverse engineered from the bare metal — [hands on]. *IEEE Spectrum*, 57(6):14–16, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2020:TPL

[Cas20i] S. Cass. The top programming languages: Our latest rankings put Python on top-again — [careers]. *IEEE Spectrum*, 57(8):22, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2021:Ha

[Cas21a] S. Cass. Hands on. *IEEE Spectrum*, 58(3):14–16, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2021:Hb

[Cas21b] Stephen Cass. Hands on. *IEEE Spectrum*, 58(7):16–18, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2021:HCM

[Cas21c] Stephen Cass. Home clustering made easier: Learn Docker and Kubernetes with the Turing Pi. *IEEE Spectrum*, 58(11): 16–18, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2021:TPL

[Cas21d] Stephen Cass. Top programming languages: Our eighth annual probe into what's hot and not. *IEEE Spectrum*, 58(10):17, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:HFR

[Cas22a] Stephen Cass. Hi-fi, radio, retro, and more: The DIY projects *Spectrum* readers love. *IEEE Spectrum*, 59(12):18–20, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:PRK

[Cas22b] Stephen Cass. Passive radar with the KrakenSDR: Spot stuff with TV antennas and a software-defined radio. *IEEE Spectrum*, 59 (11):16–18, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:SSY

[Cas22c] Stephen Cass. SQL should be your second language. *IEEE Spectrum*, 59(10):20–21, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:SAM

[Cas22d] Stephen Cass. Stefany Allaire: a micromanufacturer carves her niche. *IEEE Spectrum*, 59(3):19, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:UTT

[Cas22e] Stephen Cass. The ultimate transistor timeline: The transistor's amazing evolution from point contacts to quantum tunnels. *IEEE Spectrum*, 59(12):29, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:UTM

[Cas22f] Stephen Cass. Upcycling a Tandy Model 100: The tricky part is its weird display. *IEEE Spectrum*, 59(10):16–18, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2022:WYO

[Cas22g] Stephen Cass. Weave your own memory: a staggering 64 bits of Apollo-era ferrite-core memory can be yours [hands on]. *IEEE Spectrum*, 59(8): 14–16, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2023:QLF

[Cas23a] Stephen Cass. 5 questions for Limor Fried: What to do when the ghost in the machine is you. *IEEE Spectrum*, 60(12):21, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2023:HDY

[Cas23b] Stephen Cass. A hacker's delight: You'll either love or hate the flipper zero. *IEEE Spectrum*, 60(5):18–20, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2023:ISB

[Cas23c] Stephen Cass. I^{2}C strikes back: Surprises can lurk in even a simple comms protocol. *IEEE Spectrum*, 60(4):16–18, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2023:YHB

[Cas23d] Stephen Cass. Yugoslavia's home-brewed microcomputer: The Z80-based Galaksija dared to be different. *IEEE Spectrum*, 60(8):16–18, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2024:QLR

[Cas24a] Stephen Cass. 5 questions: Libi Rose: Letting people play with the past. *IEEE Spectrum*, 61 (10):21, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2024:BNA

[Cas24b] Stephen Cass. A brand new analog computer: Go beyond digital with the THAT. *IEEE Spectrum*, 61(01):16–18, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2024:H

[Cas24c] Stephen Cass. Hands on. *IEEE Spectrum*, 61(3):16–18, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2024:MLB

[Cas24d] Stephen Cass. It's meshtastic! LoRa-based tech brings mesh radio to makers. *IEEE Spectrum*, 61(6):16–18, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2024:MHH

[Cas24e] Stephen Cass. The most hackable handheld ham radio yet: The UV-K5 can be modded at the click of a mouse. *IEEE Spectrum*, 61(4):16–18, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2024:RCD

[Cas24f] Stephen Cass. A radar cat detector: When you really need to know what's inside the box. *IEEE Spectrum*, 61(8):18–20, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2025:BDW

[Cas25a] Stephen Cass. Build a DIY weather satellite dish: And try your hand at radio astronomy. *IEEE Spectrum*, 62 (4):14–16, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2025:BYO

[Cas25b] Stephen Cass. Build your own C64 cartridge: You only need some free software and a few dollars in parts. *IEEE Spectrum*, 62 (10):16–18, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2025:FLP

[Cas25c] Stephen Cass. A fast, laser-propelled swarm: Missions to neighboring stars could take decades, not centuries. *IEEE Spectrum*, 62(10):40–41, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2025:PNC

[Cas25d] Stephen Cass. Plotting a new course: a 1970s HP X–Y recorder enters the digital age. *IEEE Spectrum*, 62(7):16–18, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2025:PPC

[Cas25e] Stephen Cass. Press for perfect cryptography:the Pad-O-Matic prints one-time pads at the touch of a button. *IEEE Spectrum*, 62 (2):14–16, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2025:PBA

[Cas25f] Stephen Cass. Putting a BBS on the air: Microsocial media comes to meshtastic. *IEEE Spectrum*, 62(5):16–18, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Camsari:2021:DCT

[CD21] Kerem Camsari and Supriyo Datta. Dialogue concerning the two chief computing systems: Imagine yourself on a flight talking to an engineer about a scheme that straddles classical and quantum. *IEEE Spectrum*, 58(4):30–35, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Choi:2022:SGQ

[CFPP22] Charles Q. Choi, Peter Fairley, Tekla S. Perry, and Prachi Patel. Sensors: a guide to the quantum-sensor boom: Atomic scale bolsters sensing revolutions in medicine, tech, and engineering. *IEEE Spectrum*, 59(6):5–13, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cass:2023:HPS

[CG23] Stephen Cass and Harry Goldstein. How Python swallowed the world: Lessons from compiling top programming languages. *IEEE Spectrum*, 60 (9):2, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Charette:2020:MRR

[Cha20a] R. N. Charette. Managing risk and responsibility during a crisis: The COVID-19 pandemic has resurfaced questions about the government's role when disaster strikes — [spectral lines]. *IEEE Spectrum*, 57(5):4, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Charette:2020:NON

[Cha20b] R. N. Charette. No one notices the creaky software systems that run the world until they fail. *IEEE Spectrum*, 57 (9):24–30, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Chahat:2021:AMI

[Cha21a] Nacer E. Chahat. An antenna made for an icy, radioactive hell: JPL's all-metal design can withstand Europa's brutal environment. *IEEE Spectrum*, 58 (8):34–39, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Chance:2021:LDF

[Cha21b] Frances Chance. Lessons from a dragon fly's brain: Evolution built a small, fast, efficient neural network in a dragonfly. why not copy it for missile defense? *IEEE Spectrum*, 58 (8):28–33, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Charette:2023:ETH

[Cha23] Robert N. Charette. The EV transition is harder than anyone thinks: Clueless policymakers, skeptical consumers, greedy automakers and the tech isn't ready either. *IEEE Spectrum*, 60(4):40–45, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Charette:2024:CFB

[Cha24] Robert N. Charette. Can flow batteries finally beat lithium?: Nanoparticles may boost energy density enough for EVs. *IEEE Spectrum*, 61(2):22–27, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Chabot:2025:TSS

[Cha25a] Nancy L. Chabot. Three steps to stopping killer asteroids: Planetary defense tech can meet the threat. *IEEE Spectrum*, 62 (8):28–33, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Charette:2025:EHR

[Cha25b] Robert N. Charette. Electronic health records are hobbling health care: $100 billion bought a patchwork of clunky, vulnerable, and inefficient platforms. *IEEE Spectrum*, 62 (8):34–41, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Chivers:2021:HTA

[Chi21] Tom Chivers. How to train an all-purpose robot: DeepMind is tackling one of the hardest problems for AI. *IEEE Spectrum*, 58 (10):34–41, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Czerwinski:2021:BAF

[CHM21] Mary Czerwinski, Javier Hernandez, and Daniel McDuff. Building an AI that feels: AI systems with emotional intelligence could learn faster and be more helpful. *IEEE Spectrum*, 58(5):32–38, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Choi:2020:PUT

[Cho20] C. Q. Choi. 3 practical uses for topological photonics: an obscure phenomenon could improve chips, lasers, and quantum circuitry. *IEEE Spectrum*, 57(4):9–10, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Choi:2021:RWA

[Cho21] Charles Q. Choi. 7 revealing ways AIs fail: Neural networks can be disastrously brittle, forgetful, and surprisingly bad at math. *IEEE Spectrum*, 58 (10):42–47, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Choi:2023:IQL

[Cho23] Charles Q. Choi. IBM's quantum leap: The company will take quantum tech past the 1,000-qubit mark in 2023. *IEEE Spectrum*, 60(1):46–47, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Caballar:2024:N

[CJGC24] Rina Diane Caballar, Andrew Jones, Dina Genkina, and Charles Q. Choi. News. *IEEE Spectrum*, 61(7):5–12, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Choi:2021:NLD

[CKG+21] Charles Choi, Karen Kwon, Edd Gent, Samuel K. Moore, and Evan Ackerman. News: The latest developments in technology, engineering, and science [6 items]. *IEEE Spectrum*, 58(7):6–13, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Clynes:2023:N

[CKX+23] Tom Clynes, Gerald Kulcinski, Tammy Xu, Prachi Patel, Junhong Chen, and Samuel K. Moore. News. *IEEE Spectrum*, 60(11):6–13, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Clark:2024:SDR

[Cla24] Bryan Clark. Sea drones in the Russia–Ukraine War inspire new tactics: Military strategists see a possible means of defending Taiwan. *IEEE Spectrum*, 61 (10):28–33, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Clynes:2020:BIF

[Cly20] T. Clynes. 5 big ideas for fusion power: Startups, universities, and major companies are vying to commercialize a nuclear fusion reactor. *IEEE Spectrum*, 57(2):30–37, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Clynes:2022:PFZ

[Cly22] Tom Clynes. A pinch of fusion: Zap Energy's new Z-pinch reactor will demonstrate a simpler approach to an elusive goal. *IEEE Spectrum*, 59 (1):54–55, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Clynes:2023:CKHb

[Cly23] Tom Clynes. Can 10,000 kilometers of high-temperature superconducting tape transform fusion power? *IEEE Spectrum*, 60(8):30–36, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Clynes:2024:ESS

[Cly24] Tom Clynes. Energy: an off-the-shelf stellarator: Fast prototyping revives a 70-year-old fusion reactor design. *IEEE Spectrum*, 61(11):28–39, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cohen:2022:GWW

[Coh22] Gregory Cohen. Gooaall!!!: Why we built a neuromorphic robot to play foosball. *IEEE Spectrum*, 59(3):44–50, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Colias:2025:SFF

[Col25] Mike Colias. From sizzling to fizzling at Ford: How the EV transition made rock-star engine designers expendable. *IEEE Spectrum*, 62(6):38–46, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cook:2021:HWG

[Coo21] Jeremy S. Cook. This huge workbench gives you a hand: a little bit of automation and a lot of space makes projects easier. *IEEE Spectrum*, 58(8):14–16, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cook:2022:MPS

[Coo22] Jeremy S. Cook. My password is: > security with a high-resolution spectrometer. *IEEE Spectrum*, 59(1):16–18, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Copeland:2025:ATT

[Cop25] Jack Copeland. Alan Turing's top-secret DIY project: an exclusive look inside his pioneering voice-encryption system. *IEEE Spectrum*, 62(3):34–41, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cortada:2021:EQ

[Cor21a] James W. Cortada. The essential question. *IEEE Spectrum*, 58(8):2, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cortada:2021:PFT

[Cor21b] James W. Cortada. Past forward: a tool for modern times. *IEEE Spectrum*, 58(8):48, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Coxon:2025:HYB

[Cox25] Matthew Coxon. Hack yourself for a better time in VR: 3 techniques that may stave off cybersickness. *IEEE Spectrum*, 62(6):16–18, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cherston:2021:SDS

[CP21] Juliana Cherston and Joseph A. Paradiso. The smartly dressed spacecraft: Wrapped in sensor-rich electronic textiles, space structures could double as scientific instruments. *IEEE Spectrum*, 58(12):30–37, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Cline:2021:PBB

[CPBZ21] Brian Cline, Divya Prasad, Eric Beyne, and Odysseas Zografos. Power from below: Buried interconnects will help save Moore's Law. *IEEE Spectrum*, 58(9): 46–51, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Crittenden:2020:UBE

[Cri20] M. Crittenden. Ultralight batteries for electric airplanes. *IEEE Spectrum*, 57(9):44–49, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Crocker:2020:CPH

[Cro20] S. Crocker. The consensus protocol: How a radical process, invented to build the Arpanet, spawned history's greatest tool for collaborative work. *IEEE Spectrum*, 57(8):38–43, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Choi:2022:N

[CSB22] Charles Q. Choi, Eliza Strickland, and John Boyd. News. *IEEE Spectrum*, 59(2):6–50, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Chavan:2025:HNS

[CZ25] Sangeeta S. Chavan and Stavros Zanos. Hacking the nervous system with ultrasound: a new stimulation technique targets inflammation and diabetes. *IEEE Spectrum*, 62(7):32–37, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Critchley:2025:MHA

[CZG25] Liam Critchley, Glenn Zorpette, and Edd Gent. Making humans aquatic again: In 2025, people will try living in Deep's underwater habitat. *IEEE Spectrum*, 62(1):42–53, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

DeHaro:2022:LC

[De 22] Roger De Haro. Living in color. *IEEE Spectrum*, 59(1):4, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Degertekin:2024:HUB

[Deg24] F. Levent Degertekin. How ultrasound became ultra small. *IEEE Spectrum*, 61(4):38–43, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2020:MGI

[Der20] D. P. Dern. Merryl Gross, information architect: From cockpits to clinics, user experiences can mean life or death — [careers]. *IEEE Spectrum*, 57 (11):19, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:Ca

[Der21a] D. P. Dern. Careers. *IEEE Spectrum*, 58(2):17, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:Cb

[Der21b] D. P. Dern. Careers. *IEEE Spectrum*, 58(3):17, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:Cc

[Der21c] Daniel Dern. Careers. *IEEE Spectrum*, 58(5):54, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:ESS

[Der21d] Daniel P. Dern. Engineering secrets: Sandia's Dennisa Thomas ensures systems work as intended [careers]. *IEEE Spectrum*, 58(7): 19, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:SSF

[Der21e] Daniel P. Dern. From spacecraft to sensor fusion: Disparate jobs let Iverson Bell create a flexible skill set. *IEEE Spectrum*, 58(8):17, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:MPN

[Der21f] Daniel P. Dern. Marcellus Proctor: This NASA leader oversees major space projects. *IEEE Spectrum*, 58(11):20, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:BDH

[Der21g] Daniel P. Dern. S. B. Divya: How a working engineer writes some of the best science fiction around. *IEEE Spectrum*, 58(6):19, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2021:SSG

[Der21h] Daniel P. Dern. Safety at scale: General Motors' Ankur Ganguli. *IEEE Spectrum*, 58 (9):21, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:AGV

[Der22a] Daniel P. Dern. Adam Grosser:this VC is big on transportation alternatives [careers]. *IEEE Spectrum*, 59(7):17, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:CPM

[Der22b] Daniel P. Dern. Craig Partridge: In the midst of Internet traffic for 40 years and loving it. *IEEE Spectrum*, 59 (11):19, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:HPU

[Der22c] Daniel P. Dern. How Purdue University commercializes its research: Yung-Hsiang Lu helps turn research results into revenue. *IEEE Spectrum*, 59(5):19, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:MSP

[Der22d] Daniel P. Dern. Magaly Sandoval-Pichardo: Her vast range of experience lets her make the smallest circuits. *IEEE Spectrum*, 59(4):17, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:MMS

[Der22e] Daniel P. Dern. Magdalene Maluta: She's building a fleet of personal EVs in Kenya. *IEEE Spectrum*, 59(9):19, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:MRS

[Der22f] Daniel P. Dern. Maria Rerecich: She tests products for *Consumer Reports* to ensure they work as claimed. *IEEE Spectrum*, 59(6):19, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:PJA

[Der22g] Daniel P. Dern. Profile: Julie Angus: Her startup builds autonomous ocean explorers [careers]. *IEEE Spectrum*, 59(8):17, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2022:PMO

[Der22h] Daniel P. Dern. Profile: Melanie Olsen: She leads autonomous marine tech testing at ReefWorks. *IEEE Spectrum*, 59 (10):19, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2023:CBS

[Der23a] Daniel P. Dern. Careers: Brij Singh: Electrifying John Deere's heavy-duty vehicles. *IEEE Spectrum*, 60(9):21–22, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2023:CET

[Der23b] Daniel P. Dern. Careers: Eileen Tanghal: Her journey from EE to VC. *IEEE Spectrum*, 60 (6):19–20, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2023:CEH

[Der23c] Daniel P. Dern. Careers: Eugene H. Spafford: He's been fighting cybersecurity threats for decades. *IEEE Spectrum*, 60 (3):19–20, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dern:2023:CJZ

[Der23d] Daniel P. Dern. Careers: Jonathan L. Zittrain: The Harvard law professor is an expert on digital technology. *IEEE Spectrum*, 60(5):21–22, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Downey:2020:MLR

[DHOW20] J. Downey, B. Hilburn, T. O'Shea, and N. West. Machine learning remakes radio. *IEEE Spectrum*, 57(5):35–39, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

DeReyes:2020:CCD

[DM20] E. De Reyes and J. Macneill. Can cargo drones solve air freight's logjams? A drone startup says its big vertical-takeoff flier would be quick to land, load, and take off again. *IEEE Spectrum*, 57(6):30–35, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dolgin:2023:AGJ

[Dol23a] Elie Dolgin. Arthritis gets a jolt: 2023 will see the results of nerve stimulation for autoimmune disorders. *IEEE Spectrum*, 60(1):48–49, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dolgin:2023:DTB

[Dol23b] Elie Dolgin. Different types of brain stimulation may reduce cravings. *IEEE Spectrum*, 60 (8):24–29, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dolgin:2025:BDC

[Dol25] Elie Dolgin. Breaking the depression circuit: Next-gen brain implants offer new hope. *IEEE Spectrum*, 62(8):22–27, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dolgin:2025:N

[DUG+25] Elie Dolgin, Lawrence Ulrich, Dina Genkina, Tereza Pultarova, and Steven Searcy. News. *IEEE Spectrum*, 62(8):5–13, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dumiak:2020:DPA

[Dum20] M. Dumiak. Data project aims to organize scientific records: Deep-time Digital Earth will link hundreds of bespoke databases — [news]. *IEEE Spectrum*, 57 (3):9–10, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dumiak:2022:RTV

[Dum22] Michael Dumiak. A road test for vehicle-to-grid tech: Utrecht leads the world in using EVs for grid storage. *IEEE Spectrum*, 59(8):20–25, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dumiak:2023:ECE

[Dum23] Michael Dumiak. Exascale comes to Europe: Germany will host JUPITER, Europe's entry into the realm of exascale supercomputing. *IEEE Spectrum*, 60 (1):50–51, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Dutta:2022:EBE

[Dut22] Barun Dutta. Eavesdropping on the brain: With 10,000 electrodes, this neural implant senses more than ever before. *IEEE Spectrum*, 59(6):30–35, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ehnebuske:2023:H

[Ehn23] David Ehnebuske. Hands on. *IEEE Spectrum*, 60(9): 18–20, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Eisler:2023:FSC

[Eis23] Matthew N. Eisler. False starts: The checkered history of vehicle-to-grid power. *IEEE Spectrum*, 60(4):46–53, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2020:BSG

[Fai20a] P. Fairley. Bangladesh scrambles to grow power supply — [news]. *IEEE Spectrum*, 57 (2):6–7, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2020:IGV

[Fai20b] P. Fairley. India grapples with vast solar park — [news]. *IEEE Spectrum*, 57(2):8–9, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2021:GSK

[Fai21] Peter Fairley. Off-grid solar's killer app: Solar pumps, batteries, and microcredit are triggering an African agricultural renaissance. *IEEE Spectrum*, 58(6):44–49, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2023:BBG

[Fai23a] Peter Fairley. Buoyant behemoths: The global race is on to tap potent winds far offshore. *IEEE Spectrum*, 60(11): 30–37, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2023:MGH

[Fai23b] Peter Fairley. Making green hydrogen a reality Down Under: Proposals to make hydrogen from renewable electricity in Australia exceed the country's generating capacity. *IEEE Spectrum*, 60(1):24–27, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2023:THE

[Fai23c] Peter Fairley. The transformer: How energy modeler Jesse Jenkins helped Congress get serious about the power grid. *IEEE Spectrum*, 60(12):30–33, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2024:HVD

[Fai24a] Peter Fairley. High-voltage DC power roars ashore in Europe: Scotland's next-generation transmission network foreshadows a global grid transformation. *IEEE Spectrum*, 61(01):28–31, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fairley:2024:PTS

[Fai24b] Peter Fairley. Powering Taiwan's Silicon Shield. *IEEE Spectrum*, 61(10):22–45, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Farina:2023:RWG

[FBMI23] Dario Farina, Etienne Burdet, Carsten Mehring, and Jaime Ibáñez. Roboticists want to give you a third arm: Unused bandwidth in neurons can be tapped to control extra limbs. *IEEE Spectrum*, 60(3):22–46, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fishman:2024:CTA

[Fis24] Ted C. Fishman. Climate tech: The AI boom rests on billions of tonnnes of concrete: Why tech's climate pledges require the reinvention of concrete. *IEEE Spectrum*, 61(11):58–69, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fitzgerald:2021:NWW

[Fit21] Alissa M. Fitzgerald. A new wildfire watchdog: Alerts about forest fires shouldn't depend on pets smelling smoke. we need smart infrastructure, and that needs zero-power sensors. *IEEE Spectrum*, 58(11):38–43, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Fork:2021:HEC

[FK21] David Fork and Ross Koningstein. How engineers can disrupt climate change. *IEEE Spectrum*, 58(7):24–29, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ferrari:2023:WCM

[FOSMD23] Maximiliano Ferrari, Ben Ollis, Michael Starke, and Arturo Massol-Deya. The well-connnected microgried: a network of microgrids can withstand severestorms. *IEEE Spectrum*, 60 (10):36–43, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Foust:2021:TWM

[Fou21] J. Foust. Three ways to the Moon: NASA will soon narrow the possible strategies for landing people on the Moon. *IEEE Spectrum*, 58(1):44–47, January 2021.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Foust:2022:NSL

[Fou22] Jeff Foust. NASA's space launch system will lift off: But with rival rockets readying for flight, the ultimate value of SLS is murky. *IEEE Spectrum*, 59 (1):36–39, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Frank:2021:SAC

[Fra21] Steven J. Frank. State of the art: This convolutional neural network can tell you whether a painting is a fake. *IEEE Spectrum*, 58(9):26–31, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Frumer:2020:SSL

[Fru20] Y. Frumer. The short, strange life of the first friendly robot: Japan's Gakutensoku was a giant pneumatic automaton that toured through Asia until it mysteriously disappeared. *IEEE Spectrum*, 57(6):42–48, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Funk:2020:EER

[Fun20] J. Funk. Expect evolution, not revolution: Despite the hype, artificial intelligence will take years to significantly boost economic productivity. *IEEE Spectrum*, 57(3):30–35, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Guizzo:2020:WFY

[GA20] E. Guizzo and E. Ackerman. $74,500 will fetch you a spot: For the price of a luxury car, you can now buy a very smart, very capable, very yellow robot dog. *IEEE Spectrum*, 57(8):11, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Greenberg:2020:ASB

[GAG20] J. A. Greenberg, A. Ashok, and M. E. Gehm. The all-seeing baggage scanner. *IEEE Spectrum*, 57(7):22–27, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gallucci:2020:AMR

[Gal20a] M. Gallucci. Altarock melts rock for geothermal wells: Millimeter waves could help us dig deeper and faster than with traditional drills — [news]. *IEEE Spectrum*, 57(3):8–9, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gallucci:2020:WDG

[Gal20b] M. Gallucci. What to do with 177 giant tanks of radioactive sludge. *IEEE Spectrum*, 57 (5):24–33, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gallucci:2021:ASA

[Gal21a] M. Gallucci. The ammonia solution: Ammonia engines and fuel cells in cargo ships could slash their carbon emissions. *IEEE Spectrum*, 58(3):44–50, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gallucci:2021:CSF

[Gal21b] M. Gallucci. The carbon-sucking fans of West Texas: It's not enough to slash greenhouse gas emissions. Experts say we need direct-air capture. *IEEE Spectrum*, 58(1):48–49, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ganju:2024:PED

[Gan24] Vineet Ganju. Piezoelectrics enable displays to provide both high-quality audio and touch feedback. *IEEE Spectrum*, 61 (3):22–27, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Garisto:2020:NPA

[Gar20] D. Garisto. New particle-accelerating tech passes test: Energy recovery linear accelerators could reduce costs and conserve power — [news]. *IEEE Spectrum*, 57(3):6–7, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Garisto:2025:SET

[Gar25] Dan Garisto. Supercollider engineers are trying to break physics: If they do, we may finally understand dark matter. *IEEE Spectrum*, 62(5):30–37, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:N

[GAS+24] Edd Gent, Evan Ackerman, Matthew S. Smith, Tom Clynes, and Katherine Bourzac. News. *IEEE Spectrum*, 61(6):6–13, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2025:N

[GCM+25] Dina Genkina, Rina Diane Caballar, Samuel K. Moore, Eliza Strickland, Evan Ackerman, and Rachel Berkowitz. News. *IEEE Spectrum*, 62(5):5–13, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2022:N

[GDUF22] Edd Gent, Michael Dumiak, Lawrence Ulrich, and Peter Fairley. News. *IEEE Spectrum*, 59 (10):6–13, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2022:LSL

[Gen22] Edd Gent. Lessons from a second life > before Meta, Philip Rosedale created an online universe. *IEEE Spectrum*, 59 (1):19, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2023:CJI

[Gen23a] Edd Gent. Careers: Jim Vanns: The Industrial Light & Magic Engineer wins a technical Oscar. *IEEE Spectrum*, 60(10): 19–20, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2023:CMP

[Gen23b] Edd Gent. Careers: Morgan Pope: This Disney roboticist brings superheroes to life. *IEEE Spectrum*, 60(12):19–20, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2023:CPG

[Gen23c] Edd Gent. Careers: Peter Gracey: The former Royal Navy officer advocates for LGBTQ+ engineers. *IEEE Spectrum*, 60 (8):19–20, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2023:CSC

[Gen23d] Edd Gent. Careers: Sushama Chakraverty: How this UI designer finds the fun factor that makes video games so compelling. *IEEE Spectrum*, 60 (7):19–20, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2023:CMU

[Gen23e] Edd Gent. A cryptocurrency for the masses or a universal ID?: Worldcoin aims to scan all the world's eyeballs. *IEEE Spectrum*, 60(1):42–57, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2024:DSC

[Gen24a] Dina Genkina. Don't start a career as an AI prompt engineer: AI will take your job. *IEEE Spectrum*, 61(5):30–34, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2024:NOS

[Gen24b] Dina Genkina. News: Open-source hardware secures a win: sprung from RISC-V's roots, the first open security chip hits the market. *IEEE Spectrum*, 61(4):6–13, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2024:QTS

[Gen24c] Dina Genkina. Quantum tech: Squeezing an optical atomic clock into a briefcase: a mindset shift propelled the leap from basic science to invention. *IEEE Spectrum*, 61(11):44–70, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CAS

[Gen24d] Edd Gent. Careers: Aakhilesh Singhania: This Bosch engineer speeds hybrid race cars to the finish line. *IEEE Spectrum*, 61(7):19–20, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CAE

[Gen24e] Edd Gent. Careers: Arthur Erickson: This aerospace engineer builds crop-spraying drones for farmers. *IEEE Spectrum*, 61(6):19–20, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CEC

[Gen24f] Edd Gent. Careers: Erika Cruz: She keeps Whirlpool's machines spinning smoothly. *IEEE Spectrum*, 61(9):19–20, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CGB

[Gen24g] Edd Gent. Careers: Greta Bekeryte: Her journey from cleaning offices to being one of the top women in the EV industry. *IEEE Spectrum*, 61(01): 19–20, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CMS

[Gen24h] Edd Gent. Careers: Manan Suri: His brain-inspired computers run AI on sensors and drones. *IEEE Spectrum*, 61(2):19–20, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CPB

[Gen24i] Edd Gent. Careers: Patryk Borkowski: He has a cool gig at Unilever's Ice Cream Innovation Center. *IEEE Spectrum*, 61(3):19–20, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CSC

[Gen24j] Edd Gent. Careers: Susana Contrera: a network engineer who keeps Meta's AI infrastructure humming. *IEEE Spectrum*, 61(5):19–20, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:CZR

[Gen24k] Edd Gent. Careers: Zach Rattner: His startup's AI tool makes moving day easier. *IEEE Spectrum*, 61(4):20–21, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:IDE

[Gen24l] Edd Gent. Irene Degl'Innocenti: This engineer keeps CERN's particle accelerators on track. *IEEE Spectrum*, 61(8):21–22, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2024:LEN

[Gen24m] Edd Gent. Laser embeds nanoscale device in silicon. *IEEE Spectrum*, 61(9):14–15, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2025:QAS

[Gen25a] Dina Genkina. 5 questions: Amanda Stein: She's finding the perfect application for defective diamonds. *IEEE Spectrum*, 62(3):17, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2025:QRA

[Gen25b] Dina Genkina. 5 questions: Rehaan Ahmad: alphaXiv wants to be science's public square. *IEEE Spectrum*, 62(4):19, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2025:HMN

[Gen25c] Dina Genkina. How to measure nothing better: Quantum sensors could support big science, semiconductors, and more. *IEEE Spectrum*, 62(10):52–72, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:AGT

[Gen25d] Edd Gent. AI's green thumb: Agritech apps are providing personalized advice to India's small farmers. *IEEE Spectrum*, 62 (2):32–39, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:CCC

[Gen25e] Edd Gent. Careers: Carolina Cruz-Neira: This VR pioneer dreamed of dancing before a knee injury forced her to pivot. *IEEE Spectrum*, 62 (6):19–20, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:CJO

[Gen25f] Edd Gent. Careers: Javier Orman: The violinist fell in love with the "Magic" of machine learning. *IEEE Spectrum*, 62(7):19–20, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:CJB

[Gen25g] Edd Gent. Careers: Joppe Bos: The cryptographer designs encryption that even quantum hardware can't crack. *IEEE Spectrum*, 62(1):19–20, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:CMD

[Gen25h] Edd Gent. Careers: Mira Daher: This solar-energy engineer is helping Lebanon's citizens find energy independence. *IEEE Spectrum*, 62(4):17–18, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:JRA

[Gen25i] Edd Gent. Johnny Ray Austin: Curious engineers make great product managers. *IEEE Spectrum*, 62(2):17–18, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldman:2023:AHH

[GH23] Josh Goldman and Kurt House. AI hunts for hidden minerals: Machine learning is uncovering hoards of vital EV battery metals. *IEEE Spectrum*, 60(6):22–27, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Garisto:2022:N

[GHG+22] Dan Garisto, Mark Harris, Dina Genkina, Rahul Rao, and Prachi Patel. News. *IEEE Spectrum*, 59 (12):6–13, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gibbs:2021:HVW

[Gib21] W. W. Gibbs. This is how to vaccinate the world: We can manufacture and distribute enough doses to protect humanity from COVID-19. *IEEE Spectrum*, 58 (1):32–37, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gibbs:2025:WNC

[Gib25] W. Wayt Gibbs. We need to capture a lot more carbon: Novel CO_2 removal methods may need to scale up a millionfold to limit global warming to 2C. *IEEE Spectrum*, 62(10):50–51, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Guizzo:2024:WMR

[GK24] Erico Guizzo and Randi Klett. Where's my robot butler?: Here's how we could finally build humanoid robots that do all our domestic chores. *IEEE Spectrum*, 61(11):40–43, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2024:N

[GMB+24] Dina Genkina, Andrew Moseman, Katherine Bourzac, Laura Hautala, and Matthew Hutson. News. *IEEE Spectrum*, 61 (10):5–12, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goebel:2022:MMW

[GO22] Dan M. Goebel and David Oh. Mission to a metal world: In August, NASA will launch a probe to study a strange metallic asteroid called Psyche. *IEEE Spectrum*, 59(2):24–29, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gobron:2023:NTT

[Gob23] Robert Gobron. Nanostructures transform tiny cameras: Thin semiconductor metalenses are finally moving into consumers' hands. *IEEE Spectrum*, 60 (7):22–27, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2021:YNI

[Gol21] Harry Goldstein. Your new *IEEE Spectrum* website: An enhanced member experience is central to the new *Spectrum* website. *IEEE Spectrum*, 58 (9):6, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2022:ACH

[Gol22a] Harry Goldstein. AI can help make recycling better: But only humans can solve the plastics problem. *IEEE Spectrum*, 59(7): 2, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2022:AHH

[Gol22b] Harry Goldstein. AI helps humans level up: Chess players and programmers now have access to tools that can improve skills and unleash creativity. *IEEE Spectrum*, 59(11):2, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2022:DCE

[Gol22c] Harry Goldstein. The device that changed everything: Transistors are civilization's invisible infrastructure. *IEEE Spectrum*, 59(12):2, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2022:HWC

[Gol22d] Harry Goldstein. How we celebrate engineers: The Institute focuses on fascinating people and the technology they create. *IEEE Spectrum*, 59 (9):2, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2022:NAU

[Gol22e] Harry Goldstein. Nothing about us without us: Put the user at the center of assistive technology design. *IEEE Spectrum*, 59(10):2, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2022:WVT

[Gol22f] Harry Goldstein. What V2G tells us about EVs and the grid: Vehicle-to-grid technology adds another layer of complexity to the electric-vehicle transition. *IEEE Spectrum*, 59(8):2, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:AEA

[Gol23a] Harry Goldstein. AI everywhere, all at once: It's time to get serious about regulating artificial intelligence. *IEEE Spectrum*, 60(6):2, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:FHM

[Gol23b] Harry Goldstein. Fusion is having a moment. *IEEE Spectrum*, 60(8):2, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:KIR

[Gol23c] Harry Goldstein. Kicking it with robots: RoboCup and the new Robots Guide are gateways to the wonderful world of robots. *IEEE Spectrum*, 60(7): 2, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:LBS

[Gol23d] Harry Goldstein. Looking back to see ahead: Technologies decades in the making finally get their star turn in 2023. *IEEE Spectrum*, 60(1):4, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:OHC

[Gol23e] Harry Goldstein. Our hands-on citizen scientist: David Schneider's DIY projects unveil nature's secrets. *IEEE Spectrum*, 60(10):2, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:PAH

[Gol23f] Harry Goldstein. The portrait artist: How Tekla S. Perry chronicles consequential careers. *IEEE Spectrum*, 60(5):2, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:RHW

[Gol23g] Harry Goldstein. Robots and the humans who make them: Our chatbot podcast features roboticists in conversation with each other. *IEEE Spectrum*, 60 (11):2, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2023:SSE

[Gol23h] Harry Goldstein. The staggering scale of the EV transition: One engineer grapples with the challenges ahead. *IEEE Spectrum*, 60(4):2, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:CBI

[Gol24a] Harry Goldstein. The chasm between imagination and feasibility: Space-based solar power started as sci-fi. And it still is. *IEEE Spectrum*, 61(6):2, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:DTC

[Gol24b] Harry Goldstein. Defending Taiwan with chips and drones: Taiwan doubles down on its Silicon Shield strategy while the U.S. promises a storm of drones. *IEEE Spectrum*, 61(10):2, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:DVB

[Gol24c] Harry Goldstein. The doyen of the valley bids adieu: Tekla S. Perry blazed a trail for women tech journalists. *IEEE Spectrum*, 61(8):2, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:FWS

[Gol24d] Harry Goldstein. The future we saw coming is now: Technologies we've been following for years will be huge in 2024. *IEEE Spectrum*, 61(01):4, January 2024. CODEN IEESAM. ISSN 0018-

9235 (print), 1939-9340 (electronic).

Goldstein:2024:GTW

[Gol24e] Harry Goldstein. The greening of transportation: We'll need new inventions and novel adaptations to decarbonize the sector. *IEEE Spectrum*, 61(2):2, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:MCT

[Gol24f] Harry Goldstein. Making connections: Travels with AI made possible by Bob Kahn's historic contributions. *IEEE Spectrum*, 61(5):2, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:MMY

[Gol24g] Harry Goldstein. A match made in Yorktown Heights: How one artist fostered a visually stunning collaboration. *IEEE Spectrum*, 61(9):2, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:MCS

[Gol24h] Harry Goldstein. Moore on chip scaling: Scaling compute to satiate AI's appetite will take extreme measures. *IEEE Spectrum*, 61(7):2, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:RPC

[Gol24i] Harry Goldstein. Reinventing a patent case: Cob Burandt is still down and out in Ham Lake, but his attorneys have just begun to fight — again. *IEEE Spectrum*, 61(11):2, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2024:SFH

[Gol24j] Harry Goldstein. Sci-fi and hi-fi: The microstory of a storyteller who delivers both. *IEEE Spectrum*, 61(3):2, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:BML

[Gol25a] Harry Goldstein. Bot milk?: Lely's robots make the cows comfy and the workplace safer for their human caretakers. *IEEE Spectrum*, 62(5):2, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:CQB

[Gol25b] Harry Goldstein. The coming quantum boom: a century after quantum mechanics was described, a vibrant industry blooms. *IEEE Spectrum*, 62(3):2, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:CAN

[Gol25c] Harry Goldstein. Connecting Africa's next generation of engineers: Sub-Saharan Africa needs broadband, electricity, and hardware resources to develop its engineers. *IEEE Spectrum*, 62

(9):2, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:DRT

[Gol25d] Harry Goldstein. The data reveals top patent portfolios: Find unique insights with our new patent-power interactive. *IEEE Spectrum*, 62(6):2, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:HTP

[Gol25e] Harry Goldstein. "Hey, there's a problem here!": Deepak Divan's clarion call to modernize the grid. *IEEE Spectrum*, 62(2):2, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:HTC

[Gol25f] Harry Goldstein. How tech could shape geopolitics: This year's technological milestones could determine long-term outcomes. *IEEE Spectrum*, 62(1):4, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:LCK

[Gol25g] Harry Goldstein. Lots of copies keep stuff safe: Digital archivists are saving public information from the memory hole. *IEEE Spectrum*, 62(4):2, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:MTF

[Gol25h] Harry Goldstein. Move too fast, risk systemic blowback: When speed is everything, people pay the price. *IEEE Spectrum*, 62(8):2, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:SES

[Gol25i] Harry Goldstein. The story of engineering is the story of scale: Ambitious projects showcase engineers grappling with challenges big and small. *IEEE Spectrum*, 62(10):4, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goldstein:2025:HFE

[Gol25j] Harry Goldstein. This is how far engineers will go to explore the Universe: And how far we went to tell their story. *IEEE Spectrum*, 62(7):2, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goodrich:2023:APE

[Goo23a] Joanna Goodrich. Arjun Pillai: The entrepreneur shares lessons learned on his road to success. *IEEE Spectrum*, 60 (1):18–19, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goodrich:2023:PF

[Goo23b] Joanna Goodrich. Past forward. *IEEE Spectrum*, 60(12):68, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Goodrich:2025:PFF

[Goo25] Joanna Goodrich. Past forward: The first land-mine detector that actually worked. *IEEE Spectrum*, 62(1):56, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Guedes-Pinto:2022:AFM

[GP22] Paulo Guedes-Pinto. An axial-flux motor for an electrified world: It combines the best of two motor designs to save weight and energy. *IEEE Spectrum*, 59(4):38–43, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Gent:2025:N

[GPS+25] Edd Gent, Alfred Poor, Matthew S. Smith, Dina Genkina, and Charles Q. Choi. News. *IEEE Spectrum*, 62(3):5–42, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Genkina:2025:RCE

[GPUB25] Dina Genkina, Ned Potter, Lawrence Ulrich, and Katherine Bourzac. Reversible computing escapes the lab: Startup plans the first chip based on this peculiar power-saving scheme. *IEEE Spectrum*, 62(1):32–41, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Guizzo:2020:YNS

[Gui20] E. Guizzo. Your next salad could be grown by a robot. *IEEE Spectrum*, 57(1):34–35, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hampson:2020:CDR

[Ham20a] M. Hampson. COVID-19 disrupts research plans: The coronavirus pandemic has interrupted fieldwork and lab experiments — [news]. *IEEE Spectrum*, 57(6):9–10, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hampson:2020:MMJ

[Ham20b] M. Hampson. Messages from a MicroLED — [journal watch]. *IEEE Spectrum*, 57(6):7, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hampson:2020:MMM

[Ham20c] M. Hampson. Mobile malware mutates — [news]. *IEEE Spectrum*, 57(7):08, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hampson:2020:MBL

[Ham20d] M. Hampson. Motorized backpack lightens the load — [journal watch]. *IEEE Spectrum*, 57(10):7, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hamerly:2021:FDL

[Ham21] Ryan Hamerly. The future of deep learning is photonic: Reducing the energy needs of neural networks might require computing with light. *IEEE Spectrum*, 58(7):30–47, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Harris:2021:MTJ

[Har21] M. Harris. Military tests that jam and spoof GPS signals are an accident waiting to happen. *IEEE Spectrum*, 58(2): 22–27, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Harris:2022:RST

[Har22] Mark Harris. The radical scope of Tesla's data hoard: Every Tesla is providing reams of sensitive data about its driver's life. *IEEE Spectrum*, 59(10): 40–45, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hassler:2020:ECP

[Has20a] S. Hassler. Ending the COVID-19 pandemic: Embracing no-tech solutions will make high-tech solutions possible — [spectral lines]. *IEEE Spectrum*, 57 (12):6, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hassler:2020:GNA

[Has20b] S. Hassler. Google has Nest. Amazon has Echo and Alexa. Savant Systems has GE lighting! The luxury home-automation company has its sights set on high-quality mass-market home networking — [spectral lines]. *IEEE Spectrum*, 57(7):04, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hutson:2023:N

[HCP+23] Matthew Hutson, Charles Q. Choi, Prachi Patel, Lawrence Ulrich, and Michelle Hampson. News. *IEEE Spectrum*, 60 (5):7–15, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hecht:2020:SOF

[Hec20] J. Hecht. Same old fibers, record-breaking speeds: Equipment in the lab can carry 100 million Zoom videos — [news]. *IEEE Spectrum*, 57(10):9–10, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Herbst:2020:FO

[Her20] L. Herbst. Fishing for oil. *IEEE Spectrum*, 57(6):36–50, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Huitema:2022:ITM

[HF22] Edzer Huitema and Ian French. E ink's technicolor moment: The road to color E-paper took two decades. *IEEE Spectrum*, 59 (2):30–35, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Herr:2024:DCS

[HH24] Anna Herr and Quentin Herr. A data center in a shoebox: IMEC's plan to use superconductors to shrink computers.

IEEE Spectrum, 61(6):37–41, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:ADC

[Hig20a] S. Higginbotham. Anonymous by design — [CrossTalk]. *IEEE Spectrum*, 57(9):22–23, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:DDP

[Hig20b] S. Higginbotham. Data-driven power — [Internet of Everything]. *IEEE Spectrum*, 57(8):20, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:ICP

[Hig20c] S. Higginbotham. The IoT's consent problem — [CrossTalk]. *IEEE Spectrum*, 57(7):20, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:MLE

[Hig20d] S. Higginbotham. Machine learning on the edge — [Internet of Everything]. *IEEE Spectrum*, 57(1):20, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:MSV

[Hig20e] S. Higginbotham. Making sure votes count — [Internet of Everything]. *IEEE Spectrum*, 57 (10):18, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:NII

[Hig20f] S. Higginbotham. Network included — [Internet of Everything]. *IEEE Spectrum*, 57(11): 22–23, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:PVP

[Hig20g] S. Higginbotham. Pandemic vs. privacy — [CrossTalk]. *IEEE Spectrum*, 57(6):20, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:WAD

[Hig20h] S. Higginbotham. We all deserve broadband — [Internet of Everything]. *IEEE Spectrum*, 57(5):22, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:WHG

[Hig20i] S. Higginbotham. What 5G hype gets wrong — [Internet of Everything]. *IEEE Spectrum*, 57(3):22, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:WFL

[Hig20j] S. Higginbotham. Wi-Fi's long goodbye: Crosstalk. *IEEE Spectrum*, 57(2):19, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:C

[Hig21] S. Higginbotham. CrossTalk. *IEEE Spectrum*, 58(3):20–21, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hochman:2022:NYW

[Hoc22] Brian Hochman. 1950s New York was a wiretapper's dream: Eavesdropping flourished after WW II, aided by legal loopholes, clever hacks, and private ears. *IEEE Spectrum*, 59 (8):38–45, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2020:WBR

[HP20] S. Higginbotham and M. Pesce. Who's behind that robot? — [CrossTalk]. *IEEE Spectrum*, 57 (12):24–25, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:IEMa

[HP21a] S. Higginbotham and M. Pesce. Internet of Everything: Macro micro. *IEEE Spectrum*, 58(1): 18–19, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:IEMb

[HP21b] S. Higginbotham and M. Pesce. Internet of Everything: Macro micro. *IEEE Spectrum*, 58(2): 20–21, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:IEMe

[HP21c] Stacey Higginbotham and Mark Pesce. Internet of Everything: Macro & micro. *IEEE Spectrum*, 58(7):22–23, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:IEMf

[HP21d] Stacey Higginbotham and Mark Pesce. Internet of Everything: Macro & micro. *IEEE Spectrum*, 58(8):20–21, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:IEMc

[HP21e] Stacey Higginbotham and Mark Pesce. Internet of Everything: Macro micro. *IEEE Spectrum*, 58(4):20–21, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Higginbotham:2021:IEMd

[HP21f] Stacey Higginbotham and Mark Pesce. Internet of Everything: Macro micro. *IEEE Spectrum*, 58(6):22–23, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Horowitz:2021:N

[HPHU21] Brian T. Horowitz, Prachi Patel, Jeremy Hsu, and Lawrence Ulrich. News. *IEEE Spectrum*, 58(5):6–13, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hecht:2022:IUM

[HPK22] Jeff Hecht, Ned Potter, and Michael Koziol. Inside the Universe Machine: *IEEE Spectrum* explores the Webb Telescope's groundbreaking engineering. *IEEE Spectrum*, 59(9): 22–30, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Holden:2023:GRC

[HS23] Richard Holden and Elias Stein. Get ready for corporate digital currencies: Facebook failed, but another tech giant might soon pull it of. *IEEE Spectrum*, 60 (12):34–39, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hsu:2020:CAH

[Hsu20a] J. Hsu. Can AI hiring systems be made antiracist? makers and users of AI-assisted recruiting software reexamine the tools' development and how they're used — [news]. *IEEE Spectrum*, 57 (9):9–11, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hsu:2020:DCT

[Hsu20b] J. Hsu. The dilemma of contact-tracing apps: Can this crucial technology be both effective and private? *IEEE Spectrum*, 57 (10):56–59, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hsu:2020:SHW

[Hsu20c] J. Hsu. Smart headphones warn of nearby cars — [journal watch]. *IEEE Spectrum*, 57(2):8, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hubert:2024:WBS

[Hub24] Bert Hubert. Why bloat is still software's biggest vulnerability: a 2024 plea for lean software. *IEEE Spectrum*, 61 (4):22–50, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hussain:2024:SSI

[Hus24] Asim Hussain. Software sucks, but it doesn't have to: How to make leaner, greener software. *IEEE Spectrum*, 61(4):2, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hutson:2020:MBM

[Hut20] M. Hutson. The mess behind the models: Too many of the COVID-19 models led policymakers astray. Here's how tomorrow's models will get it right. *IEEE Spectrum*, 57(10): 30–35, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Hutson:2021:OAI

[Hut21] M. Hutson. The opacity of artificial intelligence makes it hard to tell when decision-making is biased. *IEEE Spectrum*, 58(2):

40–45, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Haber:2020:MET

[HVW20] N. Haber, C. Voss, and D. Wall. Making emotions transparent: Google Glass helps autistic kids understand facial expressions through augmented-reality therapy. *IEEE Spectrum*, 57(4): 46–52, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jaffe:2022:SPD

[Jaf22] Paul Jaffe. Spooky power at a distance: Researchers have beamed substantial amounts of energy at distances over 1 kilometer. *IEEE Spectrum*, 59 (6):36–41, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jagula:2022:BVS

[Jag22] Dexter Jagula. A boom with a view: The satellite-imaging industry is exploding. Here's how to take advantage of it. *IEEE Spectrum*, 59(3):38–43, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jankovsky:2024:FHS

[JAR24] Amy Jankovsky, Christine Andrews, and Bill Rogers. Fly the hybrid skies: NASA, GE Aerospace, and Boeing are collaborating on a hybrid-electric airliner. *IEEE Spectrum*, 61 (2):28–34, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jessen:2021:SSG

[Jes21] Gregg H. Jessen. The supercharged semiconductor: Gallium oxide could make powerful radios and switch thousands of volts. *IEEE Spectrum*, 58 (4):36–42, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jhunjhunwala:2022:WIC

[JJS22] Ashok Jhunjhunwala, Kaushal Kumar Jha, and Anson Sando. Weaning India from coal: How to hasten the country's transition to solar and wind power. *IEEE Spectrum*, 59(7):40–45, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jaswal:2025:BSQ

[JKW25] Vikram K. Jaswal, Diwakar Krishnamurthy, and Mea Wang. Breaking silence: The quest to ensure nonspeaking autistic people are heard. *IEEE Spectrum*, 62(6):32–37, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:FF

[Jon22a] Willie D. Jones. Figure from fiction. *IEEE Spectrum*, 59 (6):14–15, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:HW

[Jon22b] Willie D. Jones. Help not wanted. *IEEE Spectrum*, 59 (8):12–13, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:MRL

[Jon22c] Willie D. Jones. Megatruck runs on the lightest gas. *IEEE Spectrum*, 59(7):12–13, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:RAD

[Jon22d] Willie D. Jones. Revamping an art deco masterpiece. *IEEE Spectrum*, 59(9):14–15, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:RHD

[Jon22e] Willie D. Jones. A rich harvest in the desert. *IEEE Spectrum*, 59 (11):14–15, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:RCP

[Jon22f] Willie D. Jones. RoboCup class picture. *IEEE Spectrum*, 59 (10):14–15, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:RR

[Jon22g] Willie D. Jones. A Roomba for rivers. *IEEE Spectrum*, 59(5):14–15, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2022:SNF

[Jon22h] Willie D. Jones. Shot of nuclear fusion. *IEEE Spectrum*, 59 (12):14–15, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:QAL

[Jon23a] Willie D. Jones. 5 questions for Andrew Leland: The history of assistive technology for the blind. *IEEE Spectrum*, 60(10):21, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:APT

[Jon23b] Willie D. Jones. Amazon plans to take home delivery to new heights. *IEEE Spectrum*, 60 (1):16–17, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:ABB

[Jon23c] Willie D. Jones. Autodidacts build brain-controlled prosthetic. *IEEE Spectrum*, 60(5):16–17, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:EFQ

[Jon23d] Willie D. Jones. England's fission quest. *IEEE Spectrum*, 60 (9):16–17, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:GG

[Jon23e] Willie D. Jones. Guided gliders. *IEEE Spectrum*, 60(12): 14–15, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:ISC

[Jon23f] Willie D. Jones. India's solar center. *IEEE Spectrum*, 60 (10):14–15, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:IG

[Jon23g] Willie D. Jones. Intentional grounding. *IEEE Spectrum*, 60 (3):14–15, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:JB

[Jon23h] Willie D. Jones. Juice box. *IEEE Spectrum*, 60(4):14–15, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:NDS

[Jon23i] Willie D. Jones. Neutrino detector to solve Universe's mysteries. *IEEE Spectrum*, 60(7):14–15, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:SF

[Jon23j] Willie D. Jones. Space flight. *IEEE Spectrum*, 60(11):14–15, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2023:WNW

[Jon23k] Willie D. Jones. Where no wind turbine has gone before. *IEEE Spectrum*, 60(6):14–15, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2024:BMA

[Jon24a] Andrew Jones. Back to the moon, almost: NASA gears up for the world's first crewed deep-space mission in 50 years. *IEEE Spectrum*, 61(01):50–53, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2024:MMM

[Jon24b] Willie D. Jones. Municipal model maker. *IEEE Spectrum*, 61(6):14–15, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2024:RBS

[Jon24c] Willie D. Jones. Robotic bees' swarm autonomy. *IEEE Spectrum*, 61(7):14–15, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2025:STV

[Jon25] Willie D. Jones. Stan Thompson: The visionary behind hydrogen-powered trains. *IEEE Spectrum*, 62(2):19, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jordahn:2021:SWS

[Jor21] Henrik Jordahn. A skydiver who sews. *IEEE Spectrum*, 58 (12):2, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Jones:2021:LDT

[JPWB21] Andrew Jones, Prachi Patel, Emily Waltz, and Natasha Bajema. The latest developments in technology, engineering, and science: News. *IEEE Spectrum*, 58(10):6–13, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kastrup:2023:SDA

[Kas23] Bernardo Kastrup. Software-defined architecture: Learn system-level design with this dual-CPU computer. *IEEE Spectrum*, 60(11):16–18, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kroposki:2024:PPR

[KH24] Benjamin Kroposki and Andy Hoke. A path to 100 percent renewable energy: Grid-forming inverters will give us the grid we need now. *IEEE Spectrum*, 61(5):50–57, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kim:2022:GSK

[Kim22] Dong-Won Kim. The godfather of South Korea's chip industry: Kim Choong-Ki's engineer's mind helped make the country a semiconductor superpower. *IEEE Spectrum*, 59 (10):32–38, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kinget:2025:LAS

[Kin25] Peter Kinget. Learning analog system design with the MOSbius: a chip that will teach you the real-world ropes. *IEEE Spectrum*, 62(8):16–18, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kireev:2025:GBT

[Kir25] Dmitry Kireev. A graphene biosensor tattoo: a flexible stick-on patch could monitor blood pressure, stress, and more. *IEEE Spectrum*, 62(3):24–29, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kovatchev:2021:CAP

[KK21] Boris Kovatchev and Anna Kovatcheva. Creating the artificial pancreas: This wearable device senses blood glucose and administers insulin accordingly. *IEEE Spectrum*, 58(12):38–43, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kolade:2025:LJD

[Kol25] Oluwatosin Kolade. Lessons from a janky drone: What a failed class project taught me about engineering. *IEEE Spectrum*, 62

(9):38–49, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koningstein:2024:GQN

[Kon24] Ross Koningstein. Google's quiet nuclear quest: For a decade, Google has advanced fusion R&D and other frontiers. *IEEE Spectrum*, 61(12):32–37, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). See a research summary of the cold fusion review, see [BCM+19].

Koziol:2020:GSS

[Koz20a] M. Koziol. Geostationary satellites for small jobs. *IEEE Spectrum*, 57(1):48–58, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2020:HRH

[Koz20b] M. Koziol. Helping radios hear themselves — [news]. *IEEE Spectrum*, 57(1):12–13, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2020:NES

[Koz20c] M. Koziol. New encryption strategy passes early test: Ghost polarization harnesses ultrafast fluctuations that occur in a light wave. *IEEE Spectrum*, 57(7):11, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2021:SIW

[Koz21a] M. Koziol. A small island waits on big data rates: Satellite operators salivate over access to Google's Equiano cable, but St. Helena's telecom monopoly stands in the way. *IEEE Spectrum*, 58(1):50–51, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2021:CFM

[Koz21b] Michael Koziol. The clash over 5G's first mile: The wireless industry is divided on Open RAN's goal to make network components interoperable. *IEEE Spectrum*, 58(5):40–46, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2023:QAT

[Koz23a] Michael Koziol. 5 questions for Anton Troynikov: His company's creation identifies the art behind AI-generated images. *IEEE Spectrum*, 60(5):23, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2023:QCT

[Koz23b] Michael Koziol. 5 questions for Chris Taylor: Aalyria's CEO on using lasers to close the digital divide. *IEEE Spectrum*, 60(3):21, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2023:QMW

[Koz23c] Michael Koziol. 5 questions for Molly White: The "Web3 is going just great" creator on why it isn't. *IEEE Spectrum*, 60(4):21, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2023:RAL

[Koz23d] Michael Koziol. The return of the airship: LTA Research's Pathfinder 1 will begin test flights in 2023. *IEEE Spectrum*, 60(1):28–29, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2024:QDF

[Koz24a] Michael Koziol. 5 questions for David Frankel: One man's quixotic quest to stop robocalls. *IEEE Spectrum*, 61(5):21, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2024:QSF

[Koz24b] Michael Koziol. 5 questions for Seth Fraden: How to boot up a new engineering program. *IEEE Spectrum*, 61(4):19, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2024:QVC

[Koz24c] Michael Koziol. 5 questions for Vince Cate: How the AI boom has been a windfall for the island of Anguilla. *IEEE Spectrum*, 61(2):21, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2024:WFB

[Koz24d] Michael Koziol. Wi-fi's big bet on reliability: The next generation of the wireless tech retackles a common complaint. *IEEE Spectrum*, 61(01):48–49, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kahn:2024:GI

[KP24] Robert Kahn and Tekla S. Perry. The great interconnector. *IEEE Spectrum*, 61(5):36–41, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2023:N

[KPCA23] Michael Koziol, Prachi Patel, Charles Q. Choi, and Evan Ackerman. News. *IEEE Spectrum*, 60(10):5–13, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Koziol:2021:N

[KPG+21] Michael Koziol, Ned Potter, Edd Gent, Ludovico Rella, and Prachi Patel. News. *IEEE Spectrum*, 58 (12):6–50, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kuhlbusch:2024:NFP

[Kuh24] Tim Kuhlbusch. A no-fuss particle detector: an inexpensive and robust way to see the invisible. *IEEE Spectrum*, 61

(10):16–18, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kumagai:2020:RLM

[Kum20] Jean Kumagai. The return of the lithium-metal battery. *IEEE Spectrum*, 57(1):30–31, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Kumagai:2021:MBL

[Kum21] J. Kumagai. Momentum builds for lithium-ion battery recycling: The goal is to prevent thousands of tons of spent batteries from going to waste. *IEEE Spectrum*, 58(1):52–53, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Levi:2022:NCN

[LA22] Anthony F. J. Levi and Gabriel Aeppli. The naked chip: No trade secret or hardware trojan can hide from ptychographic X-ray laminography. *IEEE Spectrum*, 59(5):38–43, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2023:N

[Lau23a] Lucas Laursen. News. *IEEE Spectrum*, 60(8):5–13, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2023:NMN

[Lau23b] Lucas Laursen. No more no service: Cellphones will increasingly text via satellite. *IEEE Spectrum*, 60(1):52–55, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2024:AIC

[Lau24a] Lucas Laursen. Artificial intelligence: Can we automate fureka moments?: That's the goal of this Swiss company's AI-powered invention tech. *IEEE Spectrum*, 61(11):24–27, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2024:POH

[Lau24b] Lucas Laursen. Paris Olympics host a new event: Algorithmic video surveillance: Security olympics spin-offs are coming for you, and you, and you. *IEEE Spectrum*, 61(01): 34–37, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2025:CSA

[Lau25a] Lucas Laursen. Careers: Steve A. Adeshina: The polymath engineer modernized voting in Nigeria's fledgling democracy. *IEEE Spectrum*, 62(8):19–20, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2025:NWI

[Lau25b] Lucas Laursen. In Nigeria, why isn't broadband everywhere?: It has 8 undersea cables, but fiber-optic networks miss half the country. *IEEE Spectrum*, 62(9): 22–31, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lazarev:2021:H

[Laz21] A. Lazarev. Hands on. *IEEE Spectrum*, 58(1):12–14, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lazarus:2022:RST

[Laz22] Mitchell Lazarus. Radio-spectrum turf wars. *IEEE Spectrum*, 59(7):34–39, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lau:2020:DSC

[LCBH20] J. H. Lau, T. Cohn, T. Baldwin, and A. Hammond. "Deepspeare" crafted Shakespearean verse that few readers could distinguish from the real thing. *IEEE Spectrum*, 57(5):40–53, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Li:2022:HAG

[LDO22] Qi Li, Yin Ding, and Jorel Olan. How audio is getting its groove back: Deep learning is delivering the century-old promise of truly realistic sound reproduction. *IEEE Spectrum*, 59(10):46–52, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lee:2020:SDP

[Lee20] P. T. Lee. The software-defined power grid: How software and sensors are bringing century-old grid technology into the modern age. *IEEE Spectrum*, 57(7):40–46, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Levick:2020:RMW

[Lev20] E. Levick. A robot is my Wingman. *IEEE Spectrum*, 57(1):32–56, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Levick:2021:SST

[Lev21] Ewen Levick. A supercold sapphire ticks more regularly than anything else on the planet: The most precise timekeeper in the world. *IEEE Spectrum*, 58(7):40–46, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lewis:2020:MHP

[Lew20] P. Lewis. Make a hack-proof garage door opener: a new breakout board offers cryptographic security — [hands on]. *IEEE Spectrum*, 57(3):16–18, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lewis:2023:HFD

[Lew23] Pete G. Lewis. Hi-fi DIY ear defense: Lower the volume without muffling sounds. *IEEE*

Spectrum, 60(12):16–18, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Liu:2020:AVL

[LG20] S. Liu and J. Gaudiot. Autonomous vehicles lite self-driving technologies should start small, go slow. *IEEE Spectrum*, 57(3):36–49, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Levine:2024:UBD

[LH24] Sergey Levine and Karol Hausman. Using big data to make robots more capable. *IEEE Spectrum*, 61(2):42–46, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Landreneau:2023:PMS

[LSM23] John Landreneau, Lauren Schricker, and John MacNeill. Plugging in the Moon: To supply outposts sunk in the lunar night, solar power must come from the South Pole. *IEEE Spectrum*, 60(8):46–49, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Laursen:2025:N

[LSM+25] Lucas Laursen, Matthew S. Smith, Samuel K. Moore, Tom Clynes, and Charles Q. Choi. News. *IEEE Spectrum*, 62(6):5–12, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lucky:2020:BEF

[Luc20a] R. W. Lucky. Back to the elusive future — [spectral lines]. *IEEE Spectrum*, 57(1):4, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Lucky:2020:ISR

[Luc20b] R. W. Lucky. The ingenuity of spies — [reflections]. *IEEE Spectrum*, 57(1):21, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Liu:2024:PTT

[LW24] Mark Liu and H.-S. Philip Wong. The path to a 1-trillion-transistor GPU: AI's boom demands new chip technology. *IEEE Spectrum*, 61(7):22–27, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:BDP

[Mar20a] A. Marsh. Born digital — [past forward]. *IEEE Spectrum*, 57(7):48, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:CCP

[Mar20b] A. Marsh. Calling from the cockpit — [past forward]. *IEEE Spectrum*, 57(4):56, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:FLO

[Mar20c] A. Marsh. The first laptop in orbit — [past forward]. *IEEE Spec-*

trum, 57(6):51, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:FR

[Mar20d] A. Marsh. The first radio. *IEEE Spectrum*, 57(5):56, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:FU

[Mar20e] A. Marsh. Fun with uranium! *IEEE Spectrum*, 57(2):52, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:IXR

[Mar20f] A. Marsh. If the X-ray fits — [past forward]. *IEEE Spectrum*, 57(11):52, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:PRP

[Mar20g] A. Marsh. The Proto-Roomba — [past forward]. *IEEE Spectrum*, 57(3):50, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:SDS

[Mar20h] A. Marsh. Special delivery by satellite. *IEEE Spectrum*, 57 (12):50, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:WLP

[Mar20i] A. Marsh. Weaving light — [past forward]. *IEEE Spectrum*, 57(8):52, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2020:HFC

[Mar20j] Allison Marsh. The hidden figures of Colossus. *IEEE Spectrum*, 57(1):64, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic). URL `https://spectrum.ieee.org/tech-history/dawn-of-electronics/the-hidden-figures-behind-bletchley-parks-codebreaking-colossus`.

Marsh:2021:CRS

[Mar21a] A. Marsh. Catfish, robot, swimmer, spy. *IEEE Spectrum*, 58(3):51, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:CC

[Mar21b] A. Marsh. Counting calories. *IEEE Spectrum*, 58(1):56, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:PFa

[Mar21c] A. Marsh. Past forward. *IEEE Spectrum*, 58(2):48, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:BBT

[Mar21d] Allison Marsh. The black box that's round and red [past forward]. *IEEE Spectrum*, 58(7):48, July 2021. CODEN IEESAM.

ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:CHP

[Mar21e] Allison Marsh. Crystal history [past forward]. *IEEE Spectrum*, 58(6):68, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:NRP

[Mar21f] Allison Marsh. The Nazi radio [past forward]. *IEEE Spectrum*, 58(4):56, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:PFb

[Mar21g] Allison Marsh. Past forward. *IEEE Spectrum*, 58(5):56, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:PFAa

[Mar21h] Allison Marsh. Past forward: Anthrax by mail. *IEEE Spectrum*, 58(10):64, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:PFEb

[Mar21i] Allison Marsh. Past forward: Electricity's perilous narrative arc. *IEEE Spectrum*, 58(11):56, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:PFW

[Mar21j] Allison Marsh. Past forward: It's a wonderful light. *IEEE Spectrum*, 58(12):76, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2021:PFEa

[Mar21k] Allison Marsh. Past forward: The electric motor at 200. *IEEE Spectrum*, 58(9):72, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFa

[Mar22a] Allison Marsh. Past forward. *IEEE Spectrum*, 59(5):52, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFb

[Mar22b] Allison Marsh. Past forward. *IEEE Spectrum*, 59(6):64, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFc

[Mar22c] Allison Marsh. Past forward. *IEEE Spectrum*, 59(7):48, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFd

[Mar22d] Allison Marsh. Past forward. *IEEE Spectrum*, 59(8):48, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFf

[Mar22e] Allison Marsh. Past forward. *IEEE Spectrum*, 59 (9):68, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFg

[Mar22f] Allison Marsh. Past forward. *IEEE Spectrum*, 59(10):56, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFh

[Mar22g] Allison Marsh. Past forward. *IEEE Spectrum*, 59 (11):48, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFi

[Mar22h] Allison Marsh. Past forward. *IEEE Spectrum*, 59(12):76, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFE

[Mar22i] Allison Marsh. Past forward: Electric hearing. *IEEE Spectrum*, 59(2):48, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFL

[Mar22j] Allison Marsh. Past forward: Lessons from the Little Professor. *IEEE Spectrum*, 59(4):52, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFO

[Mar22k] Allison Marsh. Past forward: Ode to the Envoy. *IEEE Spectrum*, 59(1):64, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2022:PFN

[Mar22l] Allison Marsh. Past forward: The Nobelist's first laser. *IEEE Spectrum*, 59(3):68, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:CCC

[Mar23a] Allison Marsh. Computer chess, circa 1920. *IEEE Spectrum*, 60(7):52, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:HOP

[Mar23b] Allison Marsh. History in an object: Past forward. *IEEE Spectrum*, 60(10):52, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:JWE

[Mar23c] Allison Marsh. James Wimshurst's electrostatic immortality: Little is known about the man, but his iconic generators live on. *IEEE Spectrum*, 60(6):68–70, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:PFa

[Mar23d] Allison Marsh. Past forward. *IEEE Spectrum*, 60(1):64, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:PFb

[Mar23e] Allison Marsh. Past forward. *IEEE Spectrum*, 60(4):56, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:PFc

[Mar23f] Allison Marsh. Past forward. *IEEE Spectrum*, 60(5):56, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:PFd

[Mar23g] Allison Marsh. Past forward. *IEEE Spectrum*, 60(6):68, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:PFe

[Mar23h] Allison Marsh. Past forward. *IEEE Spectrum*, 60(8):53–57, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:PFf

[Mar23i] Allison Marsh. Past forward. *IEEE Spectrum*, 60 (11):52, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2023:TME

[Mar23j] Allison Marsh. Taking the measure of the earthquake that destroyed Tokyo: a century on, we're good at detecting earthquakes, not so good at protecting against them. *IEEE Spectrum*, 60 (9):69–72, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mary:2023:CAE

[Mar23k] L. Mary. 5 conclusion from an automation expert with first-hand knowledge of highway regulation what self-driving cars tell us about AI risks: Missy Cummings. *IEEE Spectrum*, 60 (10):30–35, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:BES

[Mar24a] Allison Marsh. Behold the electronic sackbut. *IEEE Spectrum*, 61(2):48, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PF

[Mar24b] Allison Marsh. Past forward. *IEEE Spectrum*, 61(3):64, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFP

[Mar24c] Allison Marsh. Past forward: a planetarium is born. *IEEE Spectrum*, 61(5):60, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFB

[Mar24d] Allison Marsh. Past forward: Brass for brains. *IEEE Spectrum*, 61(6):68, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFFb

[Mar24e] Allison Marsh. Past forward: Farewell, my animatronic friends. *IEEE Spectrum*, 61 (12):72, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFAb

[Mar24f] Allison Marsh. Past forward: The automatic rice cooker's unlikely inventor. *IEEE Spectrum*, 61(11):76, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFFa

[Mar24g] Allison Marsh. Past forward: The first transistor radio. *IEEE Spectrum*, 61(10):48, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFM

[Mar24h] Allison Marsh. Past forward: The mechanical TV. *IEEE Spectrum*, 61(9):68, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFS

[Mar24i] Allison Marsh. Past forward: The Scientology machine. *IEEE Spectrum*, 61(4):52, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFW

[Mar24j] Allison Marsh. Past forward: The wearable computer as bling. *IEEE Spectrum*, 61(7):48, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:PFAa

[Mar24k] Allison Marsh. Past forword: The AD-X2 affair. *IEEE Spectrum*, 61(8):48, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2024:STH

[Mar24l] Allison Marsh. The sound of two hands clapping. *IEEE Spectrum*, 61(01):64, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFC

[Mar25a] Allison Marsh. Past forward: a Cold War kit for surviving a nuclear attack. *IEEE Spectrum*, 62(8):48, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFT

[Mar25b] Allison Marsh. Past forward: The 2-in-1 TV. *IEEE Spectrum*, 62(7):52, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFF

[Mar25c] Allison Marsh. Past forward: The first inkjet printer was a medical device. *IEEE Spectrum*, 62(9):68, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFP

[Mar25d] Allison Marsh. Past forward: The path of most resistance. *IEEE Spectrum*, 62(3):60, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFL

[Mar25e] Allison Marsh. Past forward: This little Mars Rover stayed home. *IEEE Spectrum*, 62(6):64, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFR

[Mar25f] Allison Marsh. Past forward: This robot was the fall guy for British AI. *IEEE Spectrum*, 62(5):56, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:PFW

[Mar25g] Allison Marsh. Past forward: When electrification came for the eraser. *IEEE Spectrum*, 62(4):48, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Marsh:2025:SSW

[Mar25h] Allison Marsh. Slow and steady wins the race. *IEEE Spectrum*, 62(2):48, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

McCray:2020:BJH

[McC20] W. P. McCray. Big in Japan: How art, tech, and Pepsico collaborated, then clashed at the 1970 World's Fair. *IEEE Spectrum*, 57(3):40–47, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

McDaniel:2025:CLL

[McD25] Hunter McDaniel. Careers: Learn to love the problem first: a tech founder on why your solution should come second when going from research to market. *IEEE Spectrum*, 62(9):19–20, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mandelbaum:2024:IBB

[MCG24] Ryan Mandelbaum, Antonio D. Córcoles, and Jay Gambetta. IBM's big bet on the quantum-centric supercomputer: Recent advances point the way to useful classical-quantum hybrids. *IEEE Spectrum*, 61(9):24–33, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mueller:2023:WHT

[MD23] Matthias Mueller and Roland Dittmeyer. Wind-to-hydrogen tech goes to sea: Is electrolysis cheaper offshore? A new project will find out. *IEEE Spectrum*, 60 (9):24–29, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2022:N

[MDC+22] Samuel K. Moore, Dave Ditzel, Charles Q. Choi, Mark Harris, Philip E. Ross, and Evan Ackerman. News. *IEEE Spectrum*, 59(4):5–11, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2023:N

[MHLC23] Samuel K. Moore, Michelle Hampson, Lucas Laursen, and Rina Diane Caballar. News. *IEEE Spectrum*, 60(6):5–12, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mierse:2022:EMT

[Mie22] Markus Mierse. EZ Mechanical TV: a new twist on the oldest type of television display. *IEEE Spectrum*, 59(6):16–18, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mierse:2024:SFA

[Mie24] Markus Mierse. A sci-fi aerial display: This touchscreen floats in midair. *IEEE Spectrum*, 61 (11):14–16, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mishra:2023:WWW

[Mis23] Umesh K. Mishra. What will win the wide-bandgap wars? *IEEE Spectrum*, 60(4):32–39, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mitry:2020:RSK

[Mit20] M. Mitry. Routers in space: Kepler communications' CubeSats will create an Internet for other satellites. *IEEE Spectrum*, 57 (2):38–43, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2021:LDT

[MJH+21] Samuel K. Moore, Dexter Johnson, Mark Harris, Emily Waltz, Prachi Patel, and Michelle Hampson. The latest developments in technology, engineering, and science: News. *IEEE Spectrum*, 58(8):5–12, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mckeever:2020:MSM

[MJS20] J. Mckeever, D. Jervis, and M. Strupler. Microsatellites spot mystery methane leaks. *IEEE Spectrum*, 57(11):38–43, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mendelsohn:2024:N

[MLF+24] Kohava Mendelsohn, Lucas Laursen, Peter Fairley, Michelle Hampson, Sally Adee, and Greg

Uyeno. News. *IEEE Spectrum*, 61(12):7–14, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Majumdar:2024:AAI

[MMM24] Somdeb Majumdar, Uday Mallappa, and Hesham Mostafa. AI alone isn't ready for chip design: a combination of classical search and machine learning may be the way forward. *IEEE Spectrum*, 61 (12):38–43, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Maclean:2022:EVE

[MMP22] Heather L. Maclean, Alexandre Milovanoff, and I. Daniel Posen. The electric vehicle is not enough: To decarbonize road transport we need to complement EVs with bikes, rail, city planning, and alternative energy. *IEEE Spectrum*, 59(11): 28–33, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2020:WHM

[Moo20a] S. K. Moore. 4 ways to handle more qubits — [news]. *IEEE Spectrum*, 57(2):9–10, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2020:CFP

[Moo20b] S. K. Moore. Chiplets are the future of processors: Three advances boost performance, cut costs, and save power. *IEEE Spectrum*, 57(5):11–12, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2020:HSR

[Moo20c] S. K. Moore. How systemic racism destroyed black innovation in the U.S.: Violence and segregation undermined African American inventors throughout the 20th century — [news]. *IEEE Spectrum*, 57(9):6–7, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2020:NN

[Moo20d] S. K. Moore. The node is nonsense. *IEEE Spectrum*, 57 (8):24–30, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2020:HCS

[Moo20e] Samuel K. Moore. Huge chip smashes deep learning's speed barrier. *IEEE Spectrum*, 57 (1):24–27, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2021:UDG

[Moo21] S. K. Moore. The ups and downs of gravity energy storage: Startups are pioneering a radical new alternative to batteries for grid storage. *IEEE Spectrum*, 58(1):38–39, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2022:PP

[Moo22a] Samuel K. Moore. 3 paths to 3D processors. *IEEE Spectrum*, 59(6):24–29, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2022:ACC

[Moo22b] Samuel K. Moore. AI computing comes to memory chips: Samsung will double performance of neural nets with processing-in-memory. *IEEE Spectrum*, 59 (1):40–41, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2022:TWW

[Moo22c] Samuel K. Moore. The transistor of 2047: What will the device be like on its 100th anniversary? *IEEE Spectrum*, 59 (12):38–39, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2023:QSN

[Moo23a] Samuel K. Moore. 5 questions for Sam Naffziger: How he drove AMD's pioneering move to chiplets. *IEEE Spectrum*, 60(7): 21, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2023:DBH

[Moo23b] Samuel K. Moore. A dark (blue) horse emerges to speed up computing: Avicena's blue microLEDs are in a race with Ayar Lab's laser-based system. *IEEE Spectrum*, 60(1):30–31, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2024:QRT

[Moo24a] Samuel K. Moore. 5 qestions: Rao Tummala: How to start a chip industry from scratch. *IEEE Spectrum*, 61(8):23, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2024:QJR

[Moo24b] Samuel K. Moore. 5 questions for Julien Ryckaert: Why CMOS 2.0 is the next phase of Moore's Law. *IEEE Spectrum*, 61(3):21, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2024:CCE

[Moo24c] Samuel K. Moore. Chips to compute with encrypted data are coming: Fully homomorphic encryption could make data unhackable. *IEEE Spectrum*, 61 (01):38–40, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2024:CCH

[Moo24d] Samuel K. Moore. The copper connection: Hybrid bonding is the 3D-chip tech that's saving Moore's Law. *IEEE Spectrum*, 61 (9):34–39, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2024:SWU

[Moo24e] Samuel K. Moore. Semiconductors: Will the U.S. CHIPS Act speed the lab-to-fab transition?: a semiconductor startup's journey shows how it could work. *IEEE Spectrum*, 61(11): 52–57, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2025:QTA

[Moo25a] Samuel K. Moore. 5 questions: Todd Austin: Future processors will have to get lean. *IEEE Spectrum*, 62(9):21, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2025:DUC

[Moo25b] Samuel K. Moore. The data: The U.S. Chips Act spread[s] the wealth. *IEEE Spectrum*, 62 (8):14–15, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2025:SSY

[Moo25c] Samuel K. Moore. From silica to smartphone: Your processor's long, strange trip through three continents, 30,000 kilometers, and 2,000C reactors. *IEEE Spectrum*, 62(10):30–33, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moser:2022:RHB

[Mos22] Tobias Moser. Restoring hearing with beams of light. *IEEE Spectrum*, 59(9):30–35, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moseman:2025:ALT

[Mos25a] Andrew Moseman. An airplane longer than a football field: Radia is building the world's largest aircraft to carry giant windturbine blades. *IEEE Spectrum*, 62 (10):24–28, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moseman:2025:ETT

[Mos25b] Andrew Moseman. Engineers transform transformers to save the power grid: a global shortage of this essential grid tech bottlenecks energy projects. *IEEE Spectrum*, 62(2):20–25, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2022:STY

[MS22] Samuel K. Moore and David Schneider. The state of the transistor: In 75 years, it's become tiny, mighty, ubiquitous, and just plain weird. *IEEE Spectrum*, 59 (12):30–31, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2021:HDL

[MSS21] Samuel K. Moore, David Schneider, and Eliza Strickland. How deep learning works: Inside the neural networks that power today's AI. *IEEE Spectrum*, 58

(10):32–33, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mullaney:2024:BQO

[Mul24] Thomas S. Mullaney. Before QWERTY, the options were ingenious and strange: The forgotten history of Chinese keyboards. *IEEE Spectrum*, 61 (6):30–48, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Murray:2023:LIB

[Mur23] Charles J. Murray. The lithium-ion battery's long and winding road. *IEEE Spectrum*, 60 (8):40–45, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mercier:2020:PST

[MW20] P. Mercier and J. Wang. Powered by sweat: Throw out the batteries: Biofuels will change the future of wearable devices. *IEEE Spectrum*, 57(7):28–33, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Moore:2025:TTU

[MWS+25] Samuel K. Moore, Emily Waltz, Matthew S. Smith, Emily Waltz, and Yu-Tzu Chiu. Top tech 2025: Underwater living, reversible computing, actorless cinema, and other things to watch for in the year ahead. *IEEE Spectrum*, 62(1):21–31, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Mantooth:2021:VCS

[MZR21] Alan Mantooth, Carl-Mikael Zetterling, and Ana Rusu. Venus calling silicon carbide radio: Circuits can take the heat needed to phone home from our hellish sister planet. *IEEE Spectrum*, 58(5):24–30, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Namuduri:2023:CSB

[NG23] Kamesh Namuduri and Keven Gambold. 3 challenges to solve before air taxis can soar: a Texas consortium is working out a traffic system for eVTOLs. *IEEE Spectrum*, 60 (8):58–63, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Nordrum:2020:SDG

[Nor20a] A. Nordrum. Storing data in glass: Optical storage media is advancing from CDs and DVDs to small glass squares — [news]. *IEEE Spectrum*, 57 (6):10–11, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Nordrum:2020:TSH

[Nor20b] A. Nordrum. Transgenic salmon hits U.S. shelves. *IEEE Spectrum*, 57(1):44–47, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Nordrum:2020:EDP

[NS20] A. Nordrum and E. Strickland. Engineering during a pandemic: 7 CEOs, engineers, and scientists describe how their work has changed in response to COVID-19 — [news]. *IEEE Spectrum*, 57(5):6–7, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Noda:2024:BSL

[NYI24] Susumu Noda, Masahiro Yoshida, and Takuya Inoue. The brightest semiconductor laser ever: Photonic crystals enable tiny lasers to melt steel. *IEEE Spectrum*, 61(5):22–57, May 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ong:2020:UCP

[Ong20] S. Ong. U.S. cities pilot connected-vehicle tech: Enabling conventional vehicles to communicate could save lives right now — [news]. *IEEE Spectrum*, 57(7):07–09, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Opfermann:2025:MAS

[OSK25] Justin D. Opfermann, Samuel Schmidgall, and Axel Krieger. More autonomy for surgical robots: New soft tissue better than human systems suture surgeons can alone. *IEEE Spectrum*, 62(7):42–48, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Palomaki:2022:QDO

[Pal22] Peter Palomaki. Quantum dots + OLED = your next TV: Formerly rival technologies will come together in new Samsung displays. *IEEE Spectrum*, 59 (1):52–53, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Panwar:2020:BMB

[Pan20] S. Panwar. Breaking the millisecond barrier: Robots and self-driving cars will need completely reengineered networks. *IEEE Spectrum*, 57(11):44–49, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2020:PBS

[Pat20] P. Patel. Potassium batteries show promise: Hurdles remain, but potassium could someday make sense for grid storage — [news]. *IEEE Spectrum*, 57(3):11–12, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2022:CGW

[Pat22] Prachi Patel. China's Green Winter Olympics: a variety of climate-friendly strategies will be on show, along with the athletes. *IEEE Spectrum*, 59(1): 44–45, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2023:BUS

[Pat23a] Prachi Patel. Building a U.S. semiconductor workforce:

CHIPS Act-funded new fabs are spawning university programs. *IEEE Spectrum*, 60(6):28–35, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2023:CNB

[Pat23b] Prachi Patel. China's new breeder reactors may produce more than just watts: They could also make weapons-grade plutonium. *IEEE Spectrum*, 60 (1):38–39, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2024:KFM

[Pat24a] Prachi Patel. Kelp farms make carbon capture a growth industry: Solar-powered systems are already sequestering carbon in the briny deep. *IEEE Spectrum*, 61(01):40–41, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2024:MSN

[Pat24b] Prachi Patel. Merchant shipping's nuclear option: Nuclear-powered cargo ships failed decades ago, but small modular reactors could make all the difference. *IEEE Spectrum*, 61 (2):36–41, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Paul:2021:TEE

[Pau21] Jon D. Paul. In the twilight of electromechanical encryption, an exceptional machine figured in a major spy scandal. *IEEE Spectrum*, 58(9):32–52, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Paulson:2022:NGD

[Pau22] Matthew Paulson. A next-gen DIY audio amp: a Web-enabled integrated amp that won't break the bank. *IEEE Spectrum*, 59 (3):16–18, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2024:N

[PCRC24] Prachi Patel, Rina Diane Caballar, Gwendolyn Rak, and Charles Q. Choi. News. *IEEE Spectrum*, 61(01):7–15, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pepitone:2025:WTN

[Pep25] Julianne Pepitone. A walk through 7 new technologies at the airport: Scans distinguish bear spray from hairspray while biometric boarding passes get you on your way. *IEEE Spectrum*, 62(7):38–41, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:BST

[Per20a] T. S. Perry. Biosensors for on-the-spot tests: Two companies plan to debut new tech for COVID-19 testing by year's end — [news]. *IEEE Spectrum*, 57(7):09–10, July 2020. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:BTP

[Per20b] T. S. Perry. Black tech professionals are still paid less than their white colleagues: And women make less than their male colleagues, regardless of racial identity — [spectral lines]. *IEEE Spectrum*, 57(8):4, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:FFC

[Per20c] T. S. Perry. The father of FinFets: Chenming Hu took transistors into the third dimension to save Moore's Law. *IEEE Spectrum*, 57(5):46–51, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:PPT

[Per20d] T. S. Perry. The post-pandemic tech workplace: Hopes and expectations for the new normal — [departments]. *IEEE Spectrum*, 57(9):19, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:RUA

[Per20e] T. S. Perry. Researchers are using algorithms to tackle the coronavirus test shortage: The scramble to develop new test kits that deliver faster results — [spectral lines]. *IEEE Spectrum*, 57(6):4, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:RRU

[Per20f] T. S. Perry. Rocket recruiting is using AI to get you a job. For free: Its candidate pool is attracting recruiters from small and large companies. *IEEE Spectrum*, 57(9):4, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:SHT

[Per20g] T. S. Perry. Stay-at-home tech's star turn: Even technophobes rely on consumer tech now. *IEEE Spectrum*, 57(9):11–12, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:TPC

[Per20h] T. S. Perry. Take a pay cut and work wherever you want: But should the value of your work depend on where it gets done? — [spectral lines]. *IEEE Spectrum*, 57(11):4, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:WDI

[Per20i] T. S. Perry. Wage discrimination increases in tech: Women lose gains made in 2018 — [careers]. *IEEE Spectrum*, 57(6):17, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:AVY

[Per20j] Tekla S. Perry. AR/VR is this year's hot ticket for jobs: But growth in demand for blockchain developers stutters — [careers]. *IEEE Spectrum*, 57(4):19, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:GAY

[Per20k] Tekla S. Perry. A guardian angel for your car. *IEEE Spectrum*, 57(1):54–55, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:HCD

[Per20l] Tekla S. Perry. Here comes driverless ride sharing: Cruise unveils the origin, a fully autonomous SUV designed for app-controlled urban transportation — [spectral lines]. *IEEE Spectrum*, 57(3):4, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:ITD

[Per20m] Tekla S. Perry. Is it time to drag tech jobs out of Silicon Valley? — [careers]. *IEEE Spectrum*, 57(2):50, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:JDQ

[Per20n] Tekla S. Perry. John Deere's quest to solve agricultures deep-learning problems — [spectral lines]. *IEEE Spectrum*, 57(2):4, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2020:WYC

[Per20o] Tekla S. Perry. When you cut, copy, or paste today, thank Larry Tesler: Remembering the computer scientist who revolutionized the user interface — [spectral lines]. *IEEE Spectrum*, 57(4):4, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2021:LAA

[Per21a] T. S. Perry. Look out for Apple's AR glasses: With head-up displays, cameras, inertial sensors, and lidar on board, Apple's augmented-reality glasses could redefine wearables. *IEEE Spectrum*, 58(1):26–54, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2021:CCW

[Per21b] Tekla S. Perry. Conjurer of compression: From WinZips to cat GIFs, Jacob Ziv's algorithms have been making data disappear and reappear for decades. *IEEE Spectrum*, 58(5):48–53, May 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2021:TPR

[Per21c] Tekla S. Perry. Tech pay rises (almost) everywhere: The great resignation is pushing salaries up.

IEEE Spectrum, 58(12):17, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2022:AML

[Per22a] Tekla S. Perry. Asad Madni and the lifesaving sensor: His pivot away from defense led to a tiny tuning fork that helped prevent SUV rollovers and plane crashes. *IEEE Spectrum*, 59 (5):24–29, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2022:BWM

[Per22b] Tekla S. Perry. A bitcoin wallet for the masses: Square simplified credit-card transactions. now it wants to build cryptocurrency hardware. *IEEE Spectrum*, 59 (1):42–43, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2022:IAI

[Per22c] Tekla S. Perry. Inflation-adjusted income for U.S. engineers drops: Insights from IEEE–USA's annual salary survey. *IEEE Spectrum*, 59(12):16–17, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2023:MIV

[Per23] Tekla S. Perry. Mr. Internet: Vint Cerf's 1973 sketch kicked off five decades of improving and evangelizing what we now know as the Internet. *IEEE Spectrum*, 60(5):24–31, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2024:CIY

[Per24a] Jeff Perry. Careers: Improve your workplace communication: Pro tips for talking to leaders, clients, and teams. *IEEE Spectrum*, 61(12):21–22, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2024:EFF

[Per24b] Tekla S. Perry. Engineering the first Fitbit: The fitness tracker's creators had a billion-dollar idea and a lot to learn about hardware. *IEEE Spectrum*, 61(9): 40–47, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Perry:2025:BBH

[Per25] Tekla S. Perry. The broadband boss: Henry Samueli's single-chip digital modems fueled the broadband boom. *IEEE Spectrum*, 62(5):24–52, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2020:BTV

[Pes20a] M. Pesce. Being there, virtually — [macro micro]. *IEEE Spectrum*, 57(8):21, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2020:CSI

[Pes20b] M. Pesce. Certifiably secure IoT — [macro micro]. *IEEE Spectrum*, 57(10):19, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2020:CTM

[Pes20c] M. Pesce. The complacency trap — [macro micro]. *IEEE Spectrum*, 57(3):23, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2020:BUC

[Pes20d] M. Pesce. Not business as usual — [CrossTalk]. *IEEE Spectrum*, 57(6):21, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2020:PTC

[Pes20e] M. Pesce. Privacy in the time of COVID-19. *IEEE Spectrum*, 57(5):23, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2020:SSC

[Pes20f] M. Pesce. Spidey senses — [CrossTalk]. *IEEE Spectrum*, 57(7):21, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2021:PPE

[Pes21a] M. Pesce. Peering into the pandemic end game: Before COVID 19 fades, we'll see a flurry of advances in contact tracing, cloud computing, surveillance, and online gaming. *IEEE Spectrum*, 58 (1):22–25, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2021:BAM

[Pes21b] Mark Pesce. Bricked by age: Manufacturers should supply the software to keep things working indefinitely. *IEEE Spectrum*, 58(10):22, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pesce:2022:MM

[Pes22] Mark Pesce. Macro & micro. *IEEE Spectrum*, 59(1):24, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Potter:2025:N

[PHR+25] Ned Potter, Mark Harris, Gwendolyn Rak, Margo Anderson, and Eliza Strickland. News. *IEEE Spectrum*, 62(2):5–13, February 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Palomaki:2020:SQD

[PK20] P. Palomaki and S. Keuleyan. Snapshots by quantum dots: Look out, CMOS image sensors. There's a new kid in cameratown. *IEEE Spectrum*, 57 (3):24–29, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pepitone:2023:N

[PLUM23] Julianne Pepitone, Lucas Laursen, Lawrence Ulrich, and Samuel K. Moore. News. *IEEE Spectrum*, 60(12):5–12, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2023:N

[PMPG23] Prachi Patel, Samuel K. Moore, Ned Potter, and Edd Gent. News. *IEEE Spectrum*, 60 (4):5–13, April 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Parisa:2020:ACS

[PN20] Z. Parisa and M. Nova. This AI can see the forest and the trees. *IEEE Spectrum*, 57(8): 32–37, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pomazov:2021:H

[Pom21] E. Pomazov. Hands on. *IEEE Spectrum*, 58(2):14–16, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Poor:2024:GNB

[Poo24a] Alfred Poor. Grid "Neurons" boost power-line performance. *IEEE Spectrum*, 61(8):16–17, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Poor:2024:HMT

[Poo24b] Alfred Poor. How to make TV screens disappear: See-through TVs could banish the big black rectangle — at a cost. *IEEE Spectrum*, 61(10):34–39, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Potter:2020:MHP

[Pot20a] N. Potter. A Mars helicopter preps for launch: The first drone to fly on another planet will hitch a ride on NASA's Perseverance rover — [news]. *IEEE Spectrum*, 57(7):06–07, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Potter:2020:MBP

[Pot20b] N. Potter. May the best personal flyer win: The $1 million GoFly Prize has yet to be claimed — [news]. *IEEE Spectrum*, 57(4):6–7, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Potter:2024:ANM

[Pot24] Ned Potter. Aerospace: NASA made the Hubble Telescope to be remade: Spacewalk repairs and upgrades were always part of the plan. *IEEE Spectrum*, 61 (11):50–51, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Poulakis:2022:MST

[Pou22] Marios Poulakis. 6G's metamaterials solution: There's plenty of bandwidth available if we use reconfigurable intelligent surfaces. *IEEE Spectrum*, 59(11): 40–45, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Powell:2024:HRP

[Pow24] Corey S. Powell. The hunt for rogue planets: The galaxy may hold a trillion wandering, sunless worlds. so how do we find them? *IEEE Spectrum*, 61 (8):24–35, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Patel:2022:N

[PPUS22] Prachi Patel, Ned Potter, Lawrence Ulrich, and Matthew S. Smith. News. *IEEE Spectrum*, 59(7):5–11, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pretz:2020:UMU

[Pre20] K. Pretz. Using modeling to understand how COVID-19 preventive measures work: Washing hands, wearing masks: Does it help? — [spectral lines]. *IEEE Spectrum*, 57(10):4, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Price:2021:BLS

[Pri21] D. Price. Breakthrough Listen is scanning more of space than ever to try to find intelligent life. *IEEE Spectrum*, 58 (2):34–39, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Pelkey:2023:EID

[PRR23] James L. Pelkey, Loring G. Robbins, and Andrew L. Russell. The early Internet's do-or-die moments: a handful of demos shaped today's networked world. *IEEE Spectrum*, 60 (5):46–52, May 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Psaras:2022:IFS

[PSD22] Yiannis Psaras, Jorge M. Soares, and David Dias. To the InterPlanetary File System and beyond!: Peer-to-peer file sharing would make the Internet far more efficient. *IEEE Spectrum*, 59 (11):34–39, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rabault:2022:TAI

[Rab22] Jean Rabault. Tracking Arctic ice: an inexpensive sensor package gets data back despite harsh conditions. *IEEE Spectrum*, 59(4):14–16, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Radu:2020:ATT

[Rad20] I. Radu. Atom-thick transistors. *IEEE Spectrum*, 57(2): 44–49, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rae:2020:BFB

[Rae20] A. Rae. This blimp flies on buoyancy alone: the Phoenix turns up-and-down motion into thrust. *IEEE Spectrum*, 57 (7):34–39, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rafter:2020:TIR

[Raf20a] M. V. Rafter. Traffic Institute to review yellow-light timing — [news]. *IEEE Spectrum*, 57(1):8–10, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rafter:2020:WFG

[Raf20b] M. V. Rafter. Wanted: a fallback for GPS: The U.S. government seeks tech that could step in if its global satellite fleet were to fail — [news]. *IEEE Spectrum*, 57(5):9–10, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2024:IHL

[Rak24a] Gwendolyn Rak. Intel hopes to leapfrog its competitors: The chipmaker bets on new transistors, power-delivery tech, and a nascent foundry business. *IEEE Spectrum*, 61(01):32–56, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2024:SYP

[Rak24b] Gwendolyn Rak. The shrink in your pocket. *IEEE Spectrum*, 61(7):42–47, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2025:QCP

[Rak25a] Gwendolyn Rak. 5 questions: Christiane Paul: What it's like curating digital art in the age of AI. *IEEE Spectrum*, 62(5):22–23, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2025:BBB

[Rak25b] Gwendolyn Rak. Bring back buttons: This "Re-Buttonization" expert is in demand as touchscreen mania dies down. *IEEE Spectrum*, 62(3):30–33, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2025:CTJ

[Rak25c] Gwendolyn Rak. Careers: These tech jobs are in demand: Despite recent layoffs, big data and AI roles are growing. *IEEE Spectrum*, 62(3):15–16, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2025:DPP

[Rak25d] Gwendolyn Rak. The data: Patent power 2025. *IEEE Spectrum*, 62(6):14–15, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rao:2024:QSB

[Rao24] Rahul Rao. 5 questions: Scott Best: Prepping today's systems for tomorrow's post-quantum cryptography. *IEEE Spectrum*, 61(7):21, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rashid:2020:FED

[Ras20a] F. Y. Rashid. The fight over encrypted DNS — [news]. *IEEE Spectrum*, 57(1):11–12, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rashid:2020:RCC

[Ras20b] F. Y. Rashid. The rise of confidential computing: Big tech companies are adopting a new security model to protect data while it's in use — [news]. *IEEE Spectrum*, 57(6):8–9, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rippel:2025:WDE

[RC25] Wally Rippel and Alan Cocconi. We're doing EV charging wrong: a 1990s charger design would be cheaper and simpler — and just as safe, say EV pioneers. *IEEE Spectrum*, 62(4):32–47, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rao:2023:N

[RCAP23] Rahul Rao, Charles Q. Choi, Evan Ackerman, and Prachi Patel. News. *IEEE Spectrum*, 60(3):5–12, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Redd:2020:BSB

[Red20] N. T. Redd. Bringing satellites back from the dead: Mission extension vehicles give defunct spacecraft a new lease on life — [news]. *IEEE Spectrum*, 57(8):6–7, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Regan:2023:WPM

[Reg23] Matthew Regan. When Pac-Man met Turing: The game runs on an emulated 6502 CPU. *IEEE Spectrum*, 60(6):16–18, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Russ:2020:WHP

[RG20] S. H. Russ and J. Gatlin. Ways to hack a printed circuit board: PCB production is an underappreciated vulnerability in the global supply chain. *IEEE Spectrum*, 57(9):38–43, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rezvani:2022:LRS

[RHBM22] Behrooz Rezvani, Babak Hassibi, Fredrik Brännström, and Majid Manteghi. Letting robocars see around corners: Using several bands of radar at once can give cars a kind of second sight. *IEEE Spectrum*, 59

(2):36–41, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rak:2025:N

[RJSP25] Gwendolyn Rak, Andrew Jones, Eliza Strickland, and Alfred Poor. News. *IEEE Spectrum*, 62(4):5–12, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Radosavljevic:2022:TML

[RK22] Marko Radosavljevic and Jack Kavalieros. Taking Moore's Law to new heights: When transistors can't get any smaller, the only direction is up. *IEEE Spectrum*, 59 (12):32–37, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rallabandi:2024:HEC

[ROK24] Vandana Rallabandi, Burak Ozpineci, and Praveen Kumar. How EVs can escape the rare earth trap: Promising experimental motors are using exotic materials and ingenious configurations. *IEEE Spectrum*, 61 (8):36–41, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2020:FBM

[Ros20a] P. E. Ross. Flying beyond Mach 5 is back, decades after the original need-for-speed arms race ended: Going hypersonic. *IEEE Spectrum*, 57(12):32–37, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2020:PSM

[Ros20b] P. E. Ross. Putting sirens on mute: Noise-canceling smart windows filter out street sounds — [news]. *IEEE Spectrum*, 57 (9):8–9, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2021:STR

[Ros21] P. E. Ross. Supersonic travel returns: Boom's XB-1 test aircraft may usher in faster-than-sound commercial flight. *IEEE Spectrum*, 58(1):40–41, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rosenberg:2022:HPA

[Ros22a] Louis Rosenberg. How a parachute accident helped jump-start augmented reality: In 1992, hardware for the first interactive AR system literally fell from the skies. *IEEE Spectrum*, 59 (6):42–47, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rosezky:2022:DGR

[Ros22b] Matthias Rosezky. DIY gamma-ray spectroscopy: But beware a glitch in the popular Pi Pico microcontroller. *IEEE Spectrum*, 59(7):14–16, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2022:BST

[Ros22c] Philip E. Ross. Brakes that slam themselves: Automatic emergency braking will become standard in Europe. *IEEE Spectrum*, 59(1):32–33, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2022:FPP

[Ros22d] Philip E. Ross. Flying pallets without pilots: a drone startup will test a radical new vision of long-range cargo transport in Europe. *IEEE Spectrum*, 59 (1):30–31, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2022:STR

[Ros22e] Philip E. Ross. Schrödinger's tardigrade: Have researchers quantum-entangled hardy critters? *IEEE Spectrum*, 59 (2):19, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2023:QMC

[Ros23a] Philip E. Ross. 5 questions for Missy Cummings: The former fighter pilot on why autonomous vehicles are so risky. *IEEE Spectrum*, 60(6):21, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2023:EDR

[Ros23b] Philip E. Ross. Economics drives a ray-gun resurgence: Lasers, cheaper by the shot, should work well against drones and cruise missiles. *IEEE Spectrum*, 60 (1):40–41, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rossi:2025:CAA

[Ros25] Francesca Rossi. Careers: Advice from an AI ethics expert: IBM's AI ethics global leader on tackling ethical red flags. *IEEE Spectrum*, 62(5):19–20, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ross:2023:N

[RPC+23] Philip E. Ross, Prachi Patel, Charles Q. Choi, Michelle Hampson, Edd Gent, Margo Anderson, and Tekla S. Perry. News. *IEEE Spectrum*, 60(7):6–13, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Raghavan:2023:BNP

[RS23] Barath Raghavan and Bruce Schneier. A bold new plan for preserving online privacy and security: Decoupling our identities from our data and actions could safeguard our secrets in the cloud. *IEEE Spectrum*, 60 (12):22–29, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Rao:2021:AMI

[RZ21] S. Rao and L. Zhang. The algorithms that make Instacart roll: How machine learning and other tech tools guide your groceries from store to doorstep. *IEEE Spectrum*, 58(3):36–42, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Sachan:2020:PBV

[Sac20] D. Sachan. Profile: Blessin Varkey: Creating tech for students with disabilities — [careers]. *IEEE Spectrum*, 57(7):17, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Sarnoff:2020:BCA

[Sar20] M. Sarnoff. 8 bits, 6 chips: The Amethyst home computer is surprisingly capable — [hands on]. *IEEE Spectrum*, 57(4):16–18, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2021:LDT

[SAS+21] David Schneider, Evan Ackerman, Eliza Strickland, Lawrence Ulrich, and Rahul Rao. The latest developments in technology, engineering, and science: News. *IEEE Spectrum*, 58(9): 7–15, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:CEM

[SB22a] Vaclav Smil and Rodney Brooks. COVID: Excess mortalities two years later: The death toll is increasingly comparable to that of the 1918–1920 flu. *IEEE Spectrum*, 59(5):20–22, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2022:GMMa

[SB22b] Matthew S. Smith and Rodney Brooks. Gizmo: Myth and machine. *IEEE Spectrum*, 59 (1):22–23, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2022:GMMb

[SB22c] Matthew S. Smith and Rodney Brooks. Gizmo: Myth and machine. *IEEE Spectrum*, 59 (2):22–23, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schloemer:2023:SPC

[SC23] Tracy H. Schloemer and Daniel N. Congreve. Smashing photons: Changing the color of light supercharges solar energy, 3D printing, and night vision. *IEEE Spectrum*, 60(10):44–49, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Scalfani:2022:NWS

[Sca22] Charles Scalfani. A new way to squash bugs: Functional programming is hard to learn but yields fewer nasty surprises. *IEEE Spectrum*, 59(12): 40–45, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2020:DDC

[Sch20a] D. Schneider. The delivery drones are coming. *IEEE Spectrum*, 57(1):28–29, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2020:DAI

[Sch20b] D. Schneider. A DIY audio induction loop: Here's a simple way to transmit audio to people who wear T-coil-equipped hearing aids — [hands on]. *IEEE Spectrum*, 57(2):14–16, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2020:PDB

[Sch20c] D. Schneider. Pedaling out of the dark: Build a double-backup home power supply — [hands on]. *IEEE Spectrum*, 57(11): 16–18, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2020:ZBL

[Sch20d] D. Schneider. The Zoom Box: Look people in the eye while videoconferencing — [hands on]. *IEEE Spectrum*, 57(8):14–16, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2021:DLS

[Sch21a] D. Schneider. Deep learning at the speed of light: Lightmatter bets that optical computing can solve AI's efficiency problem. *IEEE Spectrum*, 58 (1):28–29, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2021:WNO

[Sch21b] D. Schneider. Where no one has seen before: The James Webb Space Telescope will let us see back almost to the Big Bang. *IEEE Spectrum*, 58(1): 30–31, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2021:H

[Sch21c] David Schneider. Hands on. *IEEE Spectrum*, 58(4):14–16, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2021:IBE

[Sch21d] David Schneider. An instant e-bike: Electrifying a bike can be electrifyingly easy. *IEEE Spectrum*, 58(9):18–20, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2021:MTG

[Sch21e] David Schneider. Mach 2, take 2: Grappling again with the promise and peril of supersonic airliners. *IEEE Spectrum*, 58 (11):26–31, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2022:BSW

[Sch22a] David Schneider. A barometer for space weather: Detect solar flares and gamma-ray bursts for less than $100. *IEEE Spectrum*, 59(2):16–18, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2022:CDW

[Sch22b] David Schneider. Chasing downed weather balloons: Hunt them with a cheap SDR receiver and a homemade antenna. *IEEE Spectrum*, 59(9):16–18, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2022:DSM

[Sch22c] David Schneider. Deep-sea mining stirs up muddy questions: A controversial pilot program will collect metal-rich nodules from the ocean floor. *IEEE Spectrum*, 59(1):56–57, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2022:DMS

[Sch22d] David Schneider. DIY magnetometer: Search for buried treasure for less than $100. *IEEE Spectrum*, 59(5):16–18, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2022:EEU

[Sch22e] David Schneider. The Exascale Era is upon us: The Frontier supercomputer may be the first to reach 1,000,000,000,000,000,000 operations per second. *IEEE Spectrum*, 59(1):34–35, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2023:DQR

[Sch23a] David Schneider. Detect quakes with raspberry shakes: a raspberry pi-based seismometer can detect even distant earthquakes. *IEEE Spectrum*, 60 (10):16–18, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2023:RFE

[Sch23b] David Schneider. A retro fuel-economy computer: This Arduino-based project outputs MPGs on a vintage dashboard gauge. *IEEE Spectrum*, 60 (3):16–18, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2023:RYO

[Sch23c] David Schneider. Roll your own all-sky camera: Use Raspberry Pi hardware to capture mesmerizing time-lapse images of the heavens. *IEEE Spectrum*, 60(7):16–18, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2024:BND

[Sch24a] David Schneider. Birding at night: Detect migrating birds with a plastic dish and a cheap microphone. *IEEE Spectrum*, 61(7):16–18, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2024:EAA

[Sch24b] David Schneider. Electronically assisted astronomy: Take detailed images of the heavens on the cheap. *IEEE Spectrum*, 61(5):16–18, May 2024. CO-

DEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schroeder:2024:WIW

[Sch24c] Karl Schroeder. What if we built a really big computer? *IEEE Spectrum*, 61(3):34–43, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2025:BDS

[Sch25a] David Schneider. A better DIY seismometer: This design is compact but still detects faraway earthquakes. *IEEE Spectrum*, 62 (1):16–18, January 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2025:SWM

[Sch25b] David Schneider. See the world with muons: For about $100, you can map mine shafts and more. *IEEE Spectrum*, 62 (3):12–14, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2022:N

[SCMP22] Eliza Strickland, Charles Q. Choi, Samuel K. Moore, and Prachi Patel. News. *IEEE Spectrum*, 59(8):5–12, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2023:N

[SCPC23] Matthew S. Smith, Rina Diane Caballar, Prachi Patel, and Charles Q. Choi. News. *IEEE Spectrum*, 60(1):8–15, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2022:N

[SCPG22] Craig S. Smith, Charles Q. Choi, Prachi Patel, and Edd Gent. News. *IEEE Spectrum*, 59(11): 5–12, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Scudellari:2020:QDT

[Scu20a] M. Scudellari. Quantum-dot tattoos store vaccine history — [news]. *IEEE Spectrum*, 57 (2):11, February 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Scudellari:2020:RBA

[Scu20b] M. Scudellari. Researchers are betting that AI and automation can cut drug discovery from five years to six months: Automating antivirals. *IEEE Spectrum*, 57(10):44–49, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2022:FWN

[SG22] Eliza Strickland and Maria Gallucci. First win for the neurorights campaign: Chile plans to regulate all neurotech and ban the sale of brain data. *IEEE Spectrum*, 59(1):26–58, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Samad:2024:CDY

[SG24] Tariq Samad and Gus Gaynor. Careers: Do you actually want to be a manager?: Understand the pros and cons before you decide to switch tracks. *IEEE Spectrum*, 61(10):19–20, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2023:N

[SGS+23] Eliza Strickland, Edd Gent, Zoltán Spakovszky, Mark Harris, and Michael Koziol. News. *IEEE Spectrum*, 60(9):1–8, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2022:DD

[SH22a] Eliza Strickland and Mark Harris. Dynamic duo. *IEEE Spectrum*, 59(3):2, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2022:WHW

[SH22b] Eliza Strickland and Mark Harris. What happens when a bionic body part becomes obsolete?: Blind people with second sight's retinal implants found out. *IEEE Spectrum*, 59(3):24–31, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Shapiro:2023:PMI

[Sha23] Scott J. Shapiro. Patch me if you can: How a New Jersey teenager's malware threatened the entire Internet. *IEEE Spectrum*, 60(6):42–48, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2024:Na

[SHC+24] Eliza Strickland, Michelle Hampson, Charles Q. Choi, Margo Anderson, Matthew S. Smith, and Evan Ackerman. News. *IEEE Spectrum*, 61(9):5–12, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stewart:2020:HCT

[SHD20] G. Stewart, K. Heusden, and G. A. Dumont. How control theory can help us control Covid-19. *IEEE Spectrum*, 57(6):22–29, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Shestakofsky:2024:MRB

[She24] Benjamin Shestakofsky. The messy reality behind a Silicon Valley unicorn. *IEEE Spectrum*, 61(4):44–49, April 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Shirriff:2022:VTF

[Shi22] Ken Shirriff. The vacuum tube's forgotten rival: Magnetic amplifiers, the alt-tech of the Third Reich, lasted into the Internet era. *IEEE Spectrum*, 59 (4):44–49, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Sackett:2024:DWD

[SHP24a] Casey Sackett, Devin Harper, and Aaron Pavez. Do we dare use generative AI for mental health? *IEEE Spectrum*, 61 (6):42–47, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2024:Nb

[SHP+24b] Eliza Strickland, Tim Hornyak, Ned Potter, Kohava Mendelsohn, and Dina Genkina. News. *IEEE Spectrum*, 61(11):5–12, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smiley:2025:AGF

[SJY25] Kira K. Smiley, Rajesh Jadhav, and Grace C. Young. AI goes fishing: an Alphabet spinoff is making aquaculture more sustainable. *IEEE Spectrum*, 62(5):46–51, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Slade:2021:DAT

[Sla21] Patrick Slade. DIY activity tracker: Count your calories more accurately than a smartphone. *IEEE Spectrum*, 58 (10):14–16, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2024:IWA

[SM24] Eliza Strickland and Peter B. Meyer. Introduction: Why the art of invention is always being reinvented: As *IEEE Spectrum* turns 60, we celebrate creativity and chutzpah in tech. *IEEE Spectrum*, 61(11):18–22, November 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Sen:2020:BNS

[SMD20] S. Sen, S. Maity, and D. Das. The body is the network: To safeguard sensitive data, turn flesh and tissue into a secure wireless channel. *IEEE Spectrum*, 57 (12):44–49, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:BGP

[Smi20a] V. Smil. Building the Great Pyramid — CrossTalk. *IEEE Spectrum*, 57(6):18–19, June 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:CNC

[Smi20b] V. Smil. Claiming the Nile — [CrossTalk]. *IEEE Spectrum*, 57 (11):20–21, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:CMB

[Smi20c] V. Smil. Cranes (the machines, not birds) — [CrossTalk]. *IEEE Spectrum*, 57(8):18–19, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:EYL

[Smi20d] V. Smil. Energiewende, 20 years later — [CrossTalk]. *IEEE*

Spectrum, 57(12):22–23, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:DWC

[Smi20e] V. Smil. (Not) drinking wine — [CrossTalk]. *IEEE Spectrum*, 57(4):20–21, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:POR

[Smi20f] V. Smil. Peak oil: a retrospective — [CrossTalk]. *IEEE Spectrum*, 57(5):20–21, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:WCR

[Smi20g] V. Smil. Why chicken rules — [CrossTalk]. *IEEE Spectrum*, 57 (1):18–19, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2020:YCA

[Smi20h] V. Smil. The year is 118 A.A.C. (after air conditioning) — [CrossTalk]. *IEEE Spectrum*, 57(7):18–19, July 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:C

[Smi21a] V. Smil. CrossTalk. *IEEE Spectrum*, 58(3):18–19, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:NDLa

[Smi21b] V. Smil. Numbers don't LIE. *IEEE Spectrum*, 58(1): 16–17, January 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:NDLb

[Smi21c] V. Smil. Numbers don't lie. *IEEE Spectrum*, 58(2): 18–19, February 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:BCI

[Smi21d] Vaclav Smil. A boat can indeed be too long and too skinny: The length-to-beam ratio still has practical limits: Numbers don't lie. *IEEE Spectrum*, 58 (8):18–19, August 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:EFB

[Smi21e] Vaclav Smil. Electric flight: Batteries are nowhere near able to sustain wide-body airliners over flights measuring in the thousands of kilometers: Numbers don't lie. *IEEE Spectrum*, 58 (11):22–23, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:HHO

[Smi21f] Vaclav Smil. The hyperloop is hyper old: Elon Musk merely renamed a 200-year-old dream: Numbers don't lie. *IEEE Spectrum*, 58(12):18–19, December 2021. CODEN IEESAM. ISSN

0018-9235 (print), 1939-9340 (electronic).

Smil:2021:NDLc

[Smi21g] Vaclav Smil. Numbers don't lie. *IEEE Spectrum*, 58(4):18–19, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:NDLd

[Smi21h] Vaclav Smil. Numbers don't lie. *IEEE Spectrum*, 58(6):20–21, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:NDLe

[Smi21i] Vaclav Smil. Numbers don't lie. *IEEE Spectrum*, 58(7):20–21, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:SAG

[Smi21j] Vaclav Smil. SUVs ascendant: Growth in SUV use could more than offset carbon savings from electric vehicles: Numbers don't lie. *IEEE Spectrum*, 58(9): 22–23, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2021:WGW

[Smi21k] Vaclav Smil. What goes up: World population growth has slowed, and some countries are actually declining: Numbers don't lie. *IEEE Spectrum*, 58 (10):18–19, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2021:RSP

[Smi21l] Alvy Ray Smith. The real story of Pixar: How a bad hardware company turned itself into a great movie studio. *IEEE Spectrum*, 58(11):44–49, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2021:WLS

[Smi21m] Alvy Ray Smith. What a long, strange trip it's been. *IEEE Spectrum*, 58(11):2, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2021:IAQ

[Smi21n] Matthew S. Smith. The indoor air-quality paradox: Easy to measure tough to fix. *IEEE Spectrum*, 58(10):20, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:AAE

[Smi22a] Vaclav Smil. Africa's access to electricity: In an era of plenty, one continent still lags: Numbers don't lie. *IEEE Spectrum*, 59(3):20–21, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:CFP

[Smi22b] Vaclav Smil. The carbon footprint of plate glass: The energy required is not transparent: Numbers don't lie. *IEEE Spectrum*, 59(4):18–19, April 2022.

CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:DAC

[Smi22c] Vaclav Smil. Decarbonization algebra: The COP26 calls for impossibly steep cuts in carbon emissions: Numbers don't lie. *IEEE Spectrum*, 59(2): 20–21, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:DOC

[Smi22d] Vaclav Smil. Decarbonization is our costliest challenge: It has no clear beginning or end, and it affects every aspect of life. *IEEE Spectrum*, 59(10):22–23, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:EDP

[Smi22e] Vaclav Smil. Extreme designs: From the pyramids to the Hummer, more is often less: Numbers don't lie. *IEEE Spectrum*, 59(1):20–21, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:FFW

[Smi22f] Vaclav Smil. Fuel, food, and war: Energy and grain are part and parcel. *IEEE Spectrum*, 59 (9):20–21, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:HFR

[Smi22g] Vaclav Smil. Hydropower, the forgotten renewable: This still-mighty source of electricity has been unfairly relegated to the scrap heap. *IEEE Spectrum*, 59 (11):20–21, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:MEH

[Smi22h] Vaclav Smil. Meat-eating is as human as apple pie: We evolved to eat meat; the world will not turn vegan. *IEEE Spectrum*, 59 (8):18–19, August 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:NDLb

[Smi22i] Vaclav Smil. Numbers don't lie: a Moore's Law-for Bombs: the rising power of destructiveness is, unfortunately, the most impressive metric of modern technology. *IEEE Spectrum*, 59(7):18, July 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:NDLa

[Smi22j] Vaclav Smil. Numbers don't lie: Electricity's slow rollout: The spread of electricity has followed a protracted and characteristic pattern — slow, then fast, then slow again. *IEEE Spectrum*, 59(6):20–21, June 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smil:2022:WST

[Smi22k] Vaclav Smil. Waiting for superbatteries: They still can't match the energy density of liquid fuel. *IEEE Spectrum*, 59(12):21, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2022:GLT

[Smi22l] Matthew S. Smith. Gizmo: a laptop that's fit to be fixed: Dell's concept responds to the right to repair movement. *IEEE Spectrum*, 59(3):22, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2022:SCC

[Smi22m] Matthew S. Smith. The spectacular collapse of cryptokitties. *IEEE Spectrum*, 59(9): 42–47, September 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2023:BGW

[Smi23a] Craig S. Smith. Baidu and Geely will mass-produce an autonomous EV: The Chinese tech giants aim for a fully self-driving car. *IEEE Spectrum*, 60(1): 36–37, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2023:MFS

[Smi23b] Matthew S. Smith. The miracle of flight simulator: It was a wonder that the original video game worked at all. Decades later, it still enthralls millions. *IEEE Spectrum*, 60 (6):36–41, June 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2023:GVD

[Smi23c] Peter Rey Smith. Guided by voices: Digital voiceprinting may not be ready for the courts. *IEEE Spectrum*, 60 (7):28–33, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2024:CCN

[Smi24] Matthew S. Smith. Challengers are coming for Nvidia's crown: In AI's Game of Thrones, don't count out the upstarts. *IEEE Spectrum*, 61(10):40–44, October 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2025:WJS

[Smi25a] Ernie Smith. Why JPEGs still rule the Web: 30 years ago, the standard became the dominant way we share digital photos. *IEEE Spectrum*, 62 (8):42–47, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2025:HSB

[Smi25b] Matthew S. Smith. The hidden scale behind every AI answer: Billions of daily queries are reshaping energy and infrastructure. *IEEE Spectrum*, 62 (10):56–57, October 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2025:N

[SMTB25] Matthew S. Smith, Samuel K. Moore, Julia Tilton, and John Boyd. News. *IEEE Spectrum*, 62(7):5–12, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Someya:2021:PSD

[Som21] Takao Someya. Put down that smartphone: The display is on your skin: The screen is the last frontier in stretchable, bendable, body-conforming electronics. *IEEE Spectrum*, 58(6):38–43, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2021:GMMa

[SP21a] Matthew S. Smith and Mark Pesce. Gizmo: Macro & micro. *IEEE Spectrum*, 58(9): 24–25, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2021:GMMb

[SP21b] Matthew S. Smith and Mark Pesce. Gizmo: Macro & micro. *IEEE Spectrum*, 58(11): 24–25, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2021:GMMc

[SP21c] Matthew S. Smith and Mark Pesce. Gizmo: Macro & micro. *IEEE Spectrum*, 58(12): 20–21, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneider:2025:DBB

[SS25] David Schneider and Steven Searcy. Dim bulb, bright idea: This DIY test equipment is a must-have for repairing vintage electronics. *IEEE Spectrum*, 62 (9):16–18, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stewart:2025:TSI

[SSB25] Jayson Stewart, Rudolf Schultz, and Daniel Brown. The tiny supernovas inside an EUV machine: The same math that describes exploding stars is keeping Moore's Law going. *IEEE Spectrum*, 62(4):20–46, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Schneier:2025:WKA

[SSJ+25] Bruce Schneier, Nathan E. Sanders, Dariusz Jemielniak, Edmon Begoli, and Amir Sadovnik. 3 ways to keep AI on our side: AI researchers can draw lessons from cybersecurity, robotics, and astrobiology. *IEEE Spectrum*, 62(4):38–45, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stenfatt:2021:FCA

[Ste21] Mads Stenfatt. The first crowdfunded astronaut. *IEEE Spectrum*, 58(12):22–29, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stockton:2020:CTB

[Sto20] N. Stockton. China takes blockchain national: The state-sponsored platform will launch in 100 cities. *IEEE Spectrum*, 57(4):11–12, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Stone:2023:DRB

[Sto23] Peter Stone. Designing robots to best World Cup winners has inspired generations of roboticists. *IEEE Spectrum*, 60(7):40–49, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2020:FTD

[Str20a] E. Strickland. Facebook takes on deepfakes. *IEEE Spectrum*, 57 (1):40–57, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2020:HCA

[Str20b] E. Strickland. Health care algorithms show racial bias — [news]. *IEEE Spectrum*, 57(1):6–7, January 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2021:TPU

[Str21] Eliza Strickland. The turbulent past and uncertain future of AI: Is there a way out of AI's boom-and-bust cycle? *IEEE Spectrum*, 58(10):26–31, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2022:ANA

[Str22a] Eliza Strickland. Andrew Ng, AI minimalist: The machine-learning pioneer says small is the new big. *IEEE Spectrum*, 59(4):22–50, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2022:BNS

[Str22b] Eliza Strickland. A bionic nose to smell the roses again: Covid survivors drive demand for a neuroprosthetic nose. *IEEE Spectrum*, 59(11):22–27, November 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2023:QLT

[Str23] Eliza Strickland. 5 questions for Luke Tan: Why his startup is producing green hydrogen for a distillery. *IEEE Spectrum*, 60 (11):21, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2024:QJB

[Str24a] Eliza Strickland. 5 questions for Joy Buolamwini: Why AI should move slow and fix things. *IEEE Spectrum*, 61(01):22, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2024:EYL

[Str24b] Eliza Strickland. This election year, look for content credentials: Media organizations combat deepfakes and disinformation with digital manifests. *IEEE Spectrum*, 61(01):24–27, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2025:QSS

[Str25a] Eliza Strickland. 5 questions: Siim Sikkut: Estonia is bringing educational chatbots to classrooms. *IEEE Spectrum*, 62(7): 21, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2025:EMD

[Str25b] Eliza Strickland. An exoskeleton made for dancing: The self-balancing Xomotion promises greater agility. *IEEE Spectrum*, 62(6):24–63, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Svrcek:2023:OGM

[Svr23] Matt Svrcek. The omnivorous generator: Mainspring's linear generator can run on almost any fuel. *IEEE Spectrum*, 60 (3):34–46, March 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2025:N

[SWJ+25] Eliza Strickland, Laurie Winkless, Willie D. Jones, Charles Q. Choi, and Samuel K. Moore. News. *IEEE Spectrum*, 62(9): 5–12, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2020:CTU

[SZ20] E. Strickland and G. Zorpette. COVID-19 has taught US that foresight and tech are a winning combination. *IEEE Spectrum*, 57 (10):20–23, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Strickland:2023:AAM

[SZ23] Eliza Strickland and Glenn Zorpette. The AI apocalypse matrix. *IEEE Spectrum*, 60(8): 38–39, August 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Smith:2024:N

[SZCB24] Matthew Smith, Glenn Zorpette, Charles Q. Choi, and John Boyd. News. *IEEE Spectrum*, 61(2): 5–13, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Szkandera:2021:BYO

[Szk21] Filip Szkandera. Build your own RISC-V CPU: Even homebrew processors can use hot new tech. *IEEE Spectrum*, 58 (6):16–18, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Tabrizian:2021:HAN

[TB21] Roozbeh Tabrizian and Swarup Bhunia. The hidden authenticators: Nanometer-scale electromechanical tags could thwart counterfeiters. *IEEE Spectrum*, 58(6):32–37, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Teisberg:2023:SSI

[Tei23] Thomas Teisberg. Seeing secrets in the ice: a drone-based radar looks for the future of climate change. *IEEE Spectrum*, 60 (10):22–29, October 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Temiz:2020:LMV

[Tem20] Y. Temiz. The Lego microscope: a valuable lab tool began as a DIY project — [hands on]. *IEEE Spectrum*, 57(5):16–18, May 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Thompson:2021:DLD

[TGLM21] Neil C. Thompson, Kristjan Greenewald, Keeheon Lee, and Gabriel F. Manso. Deep learning's diminishing returns: The cost of improvement is becoming unsustainable. *IEEE Spectrum*, 58(10):50–55, October 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Thomas:2021:PFT

[Tho21a] Dale Thomas. Phone-free texting: HamMessenger makes it easy to SMS over VHF. *IEEE Spectrum*, 58(12):14–16, December 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Thomas:2021:TLT

[Tho21b] Edd Thomas. Turning letters into tones: a century ago, the optophone allowed blind people to hear the printed word. *IEEE Spectrum*, 58(7):34–39, July 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Towfiq:2021:ICS

[Tow21] Bayan Towfiq. The Internet's coming sunny day: Subspace's network provides a weather map and dedicated backbone for faster traffic. *IEEE Spectrum*, 58 (11):32–37, November 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ulrich:2020:CCC

[Ulr20a] L. Ulrich. Curbside cab charging: Wireless power tech keeps EVs on the go — [news]. *IEEE Spectrum*, 57(10):8–9, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ulrich:2020:GBB

[Ulr20b] L. Ulrich. GM bets big on batteries: a new $ 2.3 billion plant cranks out Ultium cells to power a future line of electric vehicles. *IEEE Spectrum*, 57(12): 26–31, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ulrich:2020:TTC

[Ulr20c] L. Ulrich. Top 10 tech cars: The scramble for electric dominance has begun. *IEEE Spectrum*, 57(4):30–39, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ulrich:2021:TTA

[Ulr21] Lawrence Ulrich. The trend toward all-electric is accelerating. *IEEE Spectrum*, 58 (4):44–53, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Ulrich:2022:TIL

[Ulr22] Lawrence Ulrich. Tesla inside: The Land Rover Defender gets an electric makeover. *IEEE Spectrum*, 59(5):44–49, May 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Uskova:2021:RFR

[Usk21] Olga Uskova. On Russian farms, the robotic revolution has begun: Hundreds of aftermarket AIs are harvesting grain. *IEEE Spectrum*, 58(9):40–45, September 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Vaidya:2023:CLA

[VA23] Jaideep Vaidya and Hafiz Asif. A critical look at AI-generate software: Coding with the new AI tools is both irresistible and dangerous. *IEEE Spectrum*, 60 (7):34–39, July 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

VanSchoot:2023:MLM

[Van23] Jan Van Schoot. The Moore's Law machine: The next trick to tinier transistors is high-numerical-aperture EUV lithography. *IEEE Spectrum*, 60(9): 44–48, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Verhoeven:2024:USR

[Ver24] Sjef Verhoeven. The ultimate SDR receiver: This open-source, low-cost radio has ultrahigh performance. *IEEE Spectrum*, 61 (12):18–20, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Versluis:2020:QCS

[VH20] R. Versluis and C. Hagen. Quantum computers scale up: Constructing a universal quantum computer with a large number of qubits will be hard but not impossible. *IEEE Spectrum*, 57 (4):24–29, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2024:STI

[WA24] Emily Waltz and Luigi Avantaggiato. Spent but not trashed: an Italian startup recovers valuable materials from old solar panels. *IEEE Spectrum*, 61(7):34–41, July 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2020:TTI

[WAC+20] E. Waltz, E. Ackerman, C. Q. Choi, P. Dhar, and M. Dumiak. Take a tour inside a cell: Advances in microscopy let researchers give immersive VR trips through brain cells — [news]. *IEEE Spectrum*, 57(12):

8–14, December 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2020:ATB

[Wal20a] E. Waltz. AI takes its best shot: What AI can and can't do in the race for a coronavirus vaccine — [vaccine]. *IEEE Spectrum*, 57 (10):24–67, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2020:BDJ

[Wal20b] E. Waltz. The boredom detector: Journal watch. *IEEE Spectrum*, 57(3):8, March 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2021:VGE

[Wal21] Emily Waltz. Vaccines go electric: a handheld gadget could usher in a new era of vaccines. *IEEE Spectrum*, 58 (6):24–31, June 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2022:AMO

[Wal22] Emily Waltz. The algorithm that mapped omicron: With antigenic maps, vaccines can evolve with COVID-19 variants. *IEEE Spectrum*, 59(4):26–31, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2024:QYL

[Wal24a] Emily Waltz. 5 questions for Yilu Liu: How to EMP-proof a building. *IEEE Spectrum*, 61(6):21, June 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2024:BIC

[Wal24b] Emily Waltz. The brain-implant company going for neuralink's jugular: Synchron's electrodes are delivered via blood vessel. *IEEE Spectrum*, 61(01): 42–43, January 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2025:QRM

[Wal25a] Emily Waltz. 5 questions: Roel May: He saved eagles by painting wind-turbine blades black. *IEEE Spectrum*, 62(6):21, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Waltz:2025:DPA

[Wal25b] Emily Waltz. The data: Putting AI's energy use in context. *IEEE Spectrum*, 62(5):14–15, May 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Watkins:2024:BDQ

[Wat24] Gavin Watkins. The best DIY quartz clock yet: Vastly superior timing tech comes home. *IEEE Spectrum*, 61(2):16–18, February 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Wright:2021:APS

[WB21] J. Wright and C. Blake. Atomically precise sensors could detect a planet much like our own: Earth 2.0: This artist's rendition shows how an Earth-like exoplanet might appear. *IEEE Spectrum*, 58(3):22–28, March 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Wong:2023:CND

[WC23] Wendy H. Wong and Harry Campbell. The creepy new digital afterlife industry: These companies could bring you back without your consent. *IEEE Spectrum*, 60(11):38–43, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Weaver:2020:NDE

[Wea20] C. Weaver. The new driver's ED: Game developers teach Cruise's autonomous vehicles to understand gestures made by people on the street. *IEEE Spectrum*, 57 (9):32–37, September 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Webb:2025:RMB

[Web25] William Webb. Rethinking 6G: It's not more bandwidth that users need. *IEEE Spectrum*, 62 (3):18–23, March 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Watts:2023:LCE

[WPBS23] Michael R. Watts, Christopher Poulton, Matthew Byrd, and Greg Smolka. Lidar on a chip enters the fast lane: Sensors for self-driving cars and robots will be tiny, reliable, and affordable. *IEEE Spectrum*, 60 (9):38–43, September 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Young:2022:BHA

[You22] Britt H. Young. The bionic-hand arms race: High-tech hands are complicated, costly, and often impractical. *IEEE Spectrum*, 59 (10):24–30, October 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Yan:2020:RHN

[YS20] W. Yan and D. Schneider. The race for: a here-and-now COVID-19 test: Fast, high-tech, use-anywhere diagnostic tests are key to battling pandemics — [testing]. *IEEE Spectrum*, 57 (10):60–65, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zachary:2025:WIW

[Zac25] G. Pascal Zachary. What it will really take to electrify all of Africa: Don't underestimate the Sub-Sahara's grid issues and population growth. *IEEE Spectrum*, 62(9):32–35, September 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zdravkovic:2025:ATH

[Zdr25] Andrej Zdravkovic. AMD takes holistic approach to AI coding copilots: The chipmaker is using AI throughout the software-development life cycle. *IEEE Spectrum*, 62(6):26–31, June 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zeeberg:2025:GEL

[Zee25] Amos Zeeberg. Green-energy link set to span Black Sea: Despite risk of war and undersea cable sabotage, the Caucasus region plans to send clean electricity to Europe. *IEEE Spectrum*, 62(4):26–31, April 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zeloof:2020:HPT

[Zel20] S. Zeloof. Hack a Polaroid with a thermal printer: Go from film to digital — and add Wi-Fi — [hands on]. *IEEE Spectrum*, 57 (10):12–14, October 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zimmer:2021:AWS

[Zim21] Katarina Zimmer. Artificial wombs are science fiction: But artificial placentas are on the horizon. *IEEE Spectrum*, 58 (4):22–29, April 2021. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2024:Na

[ZJL+24] Glenn Zorpette, Debdeep Jena, Lucas Laursen, Michelle Hampson, Greg Uyeno, Dina Genkina, and Nikolai Kiselev. News. *IEEE Spectrum*, 61(3):5–12, March 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zahedi:2020:WGT

[ZL20a] S. M. Zahedi and B. C. Lee. A win for game theory in the data center. *IEEE Spectrum*, 57(4):40–44, April 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zhou:2020:DBS

[ZL20b] H. Zhou and T.-W. Lee. Display that bend and stretch: Some smartphones can now fold like a wallet. In a few years, you may wear one on your skin. *IEEE Spectrum*, 57(11):24–29, November 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2020:RMD

[Zor20] G. Zorpette. RF MEMS deliver the “ideal switch”: After two decades of development, MEMS-based RF switches are finally finding real-world uses. *IEEE Spectrum*, 57(8):8–9, August 2020. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2022:FTH

[Zor22a] Glenn Zorpette. The first transistor and how it worked: It emerged from a combustible mix of brilliance and ambition. *IEEE Spectrum*, 59(12):24–28, December 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2022:OSS

[Zor22b] Glenn Zorpette. One small step for radio: Next: One giant leap for Earth–Moon communications. *IEEE Spectrum*, 59(4): 4, April 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2022:REH

[Zor22c] Glenn Zorpette. The ripples from Edwin Hall's effect: How a 143-year-old insight is shaping spacecraft propulsion. *IEEE Spectrum*, 59(2):4, February 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2022:SSA

[Zor22d] Glenn Zorpette. The seabed solution: After 150 years, is the time finally right for deep-ocean mining? *IEEE Spectrum*, 59(1):7, January 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2022:YES

[Zor22e] Glenn Zorpette. Your eye in the sky: Satellite reconnaissance comes in from the cold. *IEEE Spectrum*, 59(3):4, March 2022. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2023:CKC

[Zor23a] Glenn Zorpette. Careers: Kyle Clark: From hockey enforcer to high-flying eVTOL CEO. *IEEE Spectrum*, 60(11):19–20, November 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2023:FEW

[Zor23b] Glenn Zorpette. Farewell, editorial wizard: Philip E. Ross retires after 17 years at *IEEE Spectrum*. *IEEE Spectrum*, 60 (12):2, December 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2023:FEY

[Zor23c] Glenn Zorpette. Finally, an eVTOL you can buy soonish: Opener's BlackFly is the first of a radical new class of automated ultralight fliers. *IEEE Spectrum*, 60(1):32–57, January 2023. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2024:QRG

[Zor24a] Glenn Zorpette. 5 questions: Richard Garwin: The designer of the first hydrogen bomb on creating "the sausage". *IEEE Spectrum*, 61(9):22–23, September 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2024:RDC

[Zor24b] Glenn Zorpette. Remembering Don Christiansen: The former Editor in Chief of *IEEE Spectrum* left an indelible mark. *IEEE Spectrum*, 61(12):2–4, December 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2025:QBP

[Zor25a] Glenn Zorpette. 5 questions: Bertrand Piccard: He'll fly around the world in a hydrogen fuel-cell aircraft. *IEEE Spectrum*, 62(8):21, August 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2025:DFA

[Zor25b] Glenn Zorpette. The data: The future of AI: LLMs at warp speed: By 2030, LLMs may tackle monthlong tasks in hours. *IEEE Spectrum*, 62(7):14–15, July 2025. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).

Zorpette:2024:Nb

[ZSG+24] Glenn Zorpette, Eliza Strickland, Edd Gent, Gwendolyn Rak, and Katherine Bourzac. News. *IEEE Spectrum*, 61(8):6–14, August 2024. CODEN IEESAM. ISSN 0018-9235 (print), 1939-9340 (electronic).