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Title word cross-reference

2 [CJ14a, CV12, HYWA09, SMT⁺17]. **20** [NPS⁺20]. **3** [ARLB18, AGD⁺20, VRBS16, BCT⁺13, CKC⁺18, CJ14a, CH14, FRB08, KSB⁺08, KYEB15, KKC17, KWWI17, LKC15, LDK⁺18, LDP⁺20, SCL17, SKRX13, TJ13b, TZS14, VOB19, XLBB06, XCF08, XDX14, XPD12, ZJS10, ZMC15]. **4** [LCSP14]. ***K*** [VOB19]. ***κ*** [MP10]. ***μ*** [RFDT15]. ***ΣΔ*** [GGTG⁺20]. ***T*** [YYC07]. **$\Theta(\sqrt{n})$** [CV12]. ***V_{th}*** [MP10].

-Bit [LCSP14]. **-D** [HYWA09]. **-depth** [CV12]. **-means** [VOB19]. **-Phase** [SMT⁺17]. **-Qubit** [NPS⁺20]. **-tree** [YYC07].

/high [MP10]. **/high-** [MP10].

1 [LZBW20]. **100GBd** [XLL⁺18]. **10nm** [GVRR17]. **14nm** [TGCJ16]. **1S1R** [BSL⁺18].

2 [ZLWB20]. **2006** [CS07]. **2007** [LC08]. **2008** [Bah09]. **2011** [AD14, SN10]. **22nm** [TGCJ16].

a-Si [HCTK08]. **ABC** [PPM⁺13]. **Abstraction** [DRL⁺19]. **Accelerate** [IGGR19]. **accelerated** [ZJT⁺14]. **Acceleration** [ASP⁺18]. **Accelerator** [KPPB17, LLX⁺18a, PJSM17, SBZT20, ZK18]. **Accelerators** [LYL19, WL19, XCS⁺19]. **Access** [GLMG⁺15, LBJ⁺16, AKW⁺13, CSKM13].

Access-Transistor-Free [GLMG⁺15].
accessibility [GN08]. **Accumulation** [BSS16]. **Accumulation-Mode** [BSS16].
Accuracy [ACH⁺17, GKT⁺18, NPH18, TKBM12].
Accurate [CMJ14, ZF15, KTW08].
Achievable [KAKSP14]. **achieving** [WWJ09]. **ACM** [BC08, Shu09, ZLWB20].
across [AMVG12, JRLR15]. **Activation** [HLH⁺12, LQYL19]. **active** [ABS⁺12, PDLS06]. **Actuators** [ZF15].
Adaptation [LJL18]. **Adaptive** [GLMG⁺15, MGK18, KMD12, LCT12].
Adder [BSL⁺18, ISI⁺18, MGZ⁺17, NV14, CV12, TR13]. **Addition** [CV11]. **Address** [IASK20]. **Addressable** [GG17].
addressing [SRD⁺06]. **Adiabatic** [KT20].
Advanced [GHHW19, YWF18]. **Advances** [TSB15]. **AER** [KWG⁺20]. **AES** [YWF18].
against [GSC17, ZCX⁺17]. **aging** [AMA⁺14, CNPR14, KCC⁺14]. **Agnostic** [CTP14]. **Algorithm** [CEW⁺13, LCSP14, MCT18, RDH14, SKB13, VOB19, YL14].
Algorithms [CLKG17, CLSD18, MS19, PT14a, SCLW19b, SCLW19a, GMM12, PSM⁺06].
alive [ABS⁺12]. **All-Optical** [GB18].
All-Spin [MS17, VSRR15]. **Alleviate** [WXW⁺17]. **Allocation** [KXY16, LKL⁺18, WWJ09]. **Allocator** [YXD⁺17]. **Allow** [KMS⁺20]. **alternate** [LBGR08]. **Alternative** [RKM15, TV17].
ALU [SDSS14]. **Amplifier** [SFD17].
Analog [ASP⁺18, BY18, BSS16, CHA20, ZSPC19].
Analysis [ARLB18, BBB⁺16, GRPT13, GG17, GFZ13, GPW⁺15, KYEB15, KCWL⁺16, LTKP16, NLK⁺13, WDG⁺20, WYZ⁺20, CCTP08, CSKM13, CWT14, DWL10, HCTK08, KSG14, PFOL07, RBGC14, ZFT13].
Analytic [VOB19]. **Analytical** [KYEB15].
Annotation [PPM⁺13]. **Anomaly** [KPFM16]. **Anti** [CCW18]. **Anti-Reverse** [CCW18]. **Application** [DKK⁺15, DJH⁺19, FC18, Tah06, WDG⁺20, AMVG12, XS14].
Application-driven [WDG⁺20].
Application-independent [Tah06].
Application-Specific [DKK⁺15, FC18].
Applications [ASP⁺18, BOAC⁺20, FNO⁺19, GYM⁺17, IGGR19, JWJ⁺17, KPPB17, SJKS20, SHAC19, MFA⁺13, PFOL07]. **Approach** [BM15, BS15, DRSR14, DJ16, JRLR15, LDK⁺18, ZY18, ZGSA15, CQZK14, RT08, SZSS10]. **Approaches** [SMZ⁺19].
Approximate [GP17, JLL⁺17, LQYL19, SJKS20, SVA⁺18, SBT20, TT20].
Arbitrary [Mog14]. **Architecting** [Mit17].
Architectural [Mit16, VO06, WKL16].
Architecture [AM18, BYHT18, CNH12, CTT⁺20, DPB11, JOF⁺15, LLX⁺18a, LZBW20, LDP⁺20, LPM⁺19, NLL⁺17, SGR⁺12, VK18, VDB⁺16, VOB19, WX15, YYBK19, ZLWB20, ZK19, CQZK14, CV12, CA11, MTC⁺08, Moh12, PDLS06, PDL07, SCI⁺09, TWL09, TCSV09, ZJS09a, ZJS10, ZJS09b].
architecture-level [Moh12].
Architectures [ACM⁺20, AMF⁺15, CMM⁺18, CDP17, CCWCC15, DJ16, GCO⁺11, LGL15, RMG15, Shu09, WZL16, YJ18, YP17, BPH⁺11, CDG⁺12, Deh05, FGZ14, KWFH12, WVGP13, XLBB06, ZMT13].
Area [CKC⁺18, CCH16, KCWL⁺16, PFRR17, RT07]. **Arithmetic** [JLL⁺17, VMNI08, Gla14]. **Array** [KKY⁺20, LYWW13, MTC⁺08]. **Arrays** [BSL⁺18, CEW⁺13, CCH16, CCTP08, CSKM13]. **Artificial** [Dea14]. **ASBUS** [YWF18]. **ASIE** [KWG⁺20]. **Assays** [GCB14]. **assembled** [GRS05]. **Assessment** [VOB19]. **Assignment** [YJ18, SLS⁺14, ZS08]. **Associated** [GCO⁺11]. **Associative** [CCWCC15, SBR19]. **Asymmetric** [CJ16, GVRR17, GJ17, LPW18].

Asynchronous

[GRPT13, GGTG⁺20, KWG⁺20, SM11, VGZ11, VSM19, ZSXY11, CB09].

Asynchrony [SN11]. **Attack** [GCTF20].

Attacks [JWJ⁺17]. **Authentication**

[Bis17, IGR⁺16]. **Automata**

[DPB11, TNWD20, DWL10]. **Automated**

[DMR06, GCJ17, XHSC07, ZS08].

automation [CZ05]. **Autonomous**

[LPB⁺15]. **Aware** [GLMG⁺15, GUP11,

MPM13, MKW⁺14, NPS⁺20, PFRR17,

PRG⁺15, WX15, DJH⁺19, DLL⁺19,

LHHZ19, MSCS19, RHB⁺20, RMBC12,

SAAR20, STA⁺12, YWH⁺13].

Back [NLW⁺20]. **Backside** [DDR⁺16a].

ballistic [HYWA09, PFOL07]. **bar**

[KKY⁺20]. **Barely** [ABS⁺12]. **Based**

[BBB⁺16, BSY⁺16, BYHT18, CZW⁺19,

DDP20, DKK⁺15, DJH⁺19, FYJ⁺17,

GCO⁺11, GRPT13, GG17, HC15, KXY16,

KT20, LTKP16, LPB⁺15, LQYL19,

LLX⁺18b, MPM13, MKSW17, NLL⁺17,

NPA⁺12, OBLD14, QGW20, STSG17,

SGR⁺12, SSF⁺15, TZS14, VAK18, VDB⁺16,

VSR15, WX15, WL19, XLL⁺18, YXW⁺12,

YLF⁺17, YYPK17, ZJ11, ZCX⁺17, ZY18,

ZF15, CZ05, CHN09, DMR06, Deh05, GD12,

Gla14, GCTF20, HRR19, HMS⁺05,

KKY⁺20, LJ10, LDK⁺18, LDP⁺20,

MSCS19, MN06, MS20, NLW⁺20, SZSS10,

SAAR20, SPR18, SC06, TCSV09, TR13,

VOB19, WWG⁺19, WYZ⁺20, YBYK19,

ZCDD19, ZH20, WZSC09]. **Batching**

[LML⁺19]. **BCD** [TR13]. **BD** [HYA⁺20].

BD-Net [HYA⁺20]. **beamed** [KK12]. **Beat**

[LTKP16]. **Behavior** [BOAC⁺20, GSC17].

Benchmark [XCS⁺19]. **Benchmarking**

[BHLD19]. **Benefit** [CKC⁺18]. **Best**

[Bah09]. **between** [TGCJ16]. **beyond**

[KZW⁺15]. **bias** [KCC⁺14]. **Biased** [WL19].

Big [MLP⁺20]. **BigBus** [BPS19].

Binarized [HYA⁺20, SBR19]. **Binary**

[CCWCC15, GCJ17, LLX⁺18a, NHL⁺17,

SBR19, TR13]. **biochemical** [RBGC14].

Biochips [BMB18, GCB14, HRR19,

LBB⁺18, MPM13, OGB18, CZ05, DJRM09,

DDM⁺06, RMBC12, RBGC14, SC06, SC08,

XHSC07, XC08, YYC07]. **Bioinformatics**

[Gui13]. **Biology** [Dea14, FHF14, HD14,

MHW14, MSW14, OBLD14, VMV13].

Biosequence [GFZ13]. **Bit** [LCSP14].

Bitline [LYWW13]. **Bladder** [MGS⁺12].

Blind [CVK15]. **Block** [CZQK15, ON15].

Boltzmann [YP17]. **bond** [XS14].

Bonding [KKC17]. **Boolean**

[GKT⁺18, SWK⁺16]. **Bottom** [NLK⁺13].

Bottom-up [NLK⁺13]. **Brain**

[BY18, KWWI17]. **Brain-inspired** [BY18].

broad [GN08]. **Brownian** [PLC⁺13]. **build**

[KSB⁺08]. **buildable** [LRN05]. **built**

[CWL⁺13]. **Bulk** [BSS16]. **Bundled**

[SMT⁺17]. **Bundled-Data** [SMT⁺17].

Bundling [SBR19].

Cache

[GB18, NLW⁺20, VSRR15, ZMC15, TJ13a].

Caches [ON15, PAB⁺17, CWL⁺13].

Calculus [DD14]. **Call** [SN10].

Canonization [GUP11]. **Capacity**

[KXY16]. **Carbon** [DLWW08, GRPT13,

HC15, HZY⁺12, MN06, SXL⁺12]. **Carry**

[MGZ⁺17]. **Case**

[AGD⁺20, PPM⁺13, HCTK08]. **Causality**

[MJ11]. **CBRAM** [MKSW17].

CBRAM-Based [MKSW17]. **Cell**

[BCT⁺13, GG17, SFD17, SWJ07]. **Cells**

[CMJ14, DSB16, KCWL⁺16, MS17,

CWL⁺13]. **Cellular** [DPB11, LLX⁺18b,

TNWD20, XLW⁺18, CCTP08, DWL10].

center [BPB⁺12, KMD12, SMR⁺12].

centers [AMVG12]. **Centric**

[KPPB17, NYL⁺20]. **CGRAs** [JOF⁺15].

Chain [MLP⁺20, GD12, WFCX09].

chain-based [GD12]. **Challenges**

[BVM⁺19, Ko12, Nar05, MN06, YW13].

Change [WZL16, JRC⁺13]. **Channel**

[CDP17, PRV⁺20]. **Characteristics**

[K18]. **Characterization** [AMA⁺14, LCY19, NLW⁺20, TJ13b, KWFH12]. **Charge** [RFDT15]. **Check** [LBJ⁺16]. **Check-Pointing** [LBJ⁺16]. **Checking** [MZR⁺14]. **chemically** [CNHL08]. **Chip** [VRBS16, BKJ19, Bis17, CLKG17, CMM⁺18, CZQK15, CKC⁺18, CCW18, CTP14, DJ16, FNO⁺19, LDK⁺18, LWM⁺14, MSCS19, PDL15, PRG⁺15, QCF⁺16, SCLW19a, TZS14, VK18, VSM19, WXW⁺17, XYM18, ACM⁺20, BPH⁺11, CLSD18, CDG⁺12, CWL⁺13, CJ14b, CA11, DLL⁺19, GMM12, LMC⁺11, LWX⁺14, SCLW19b, WVG13, ZFT13, ZXC10, PCD⁺11, YXW⁺12]. **Chip-Level** [CCW18]. **choices** [Nar05]. **Chronic** [MGS⁺12]. **Circuit** [ACH⁺17, CJ16, DRSR14, GRPT13, GCJ17, GB18, HSM17, KHR⁺15, LZBW20, MCT18, NPH18, SAAR20, TT20, TGCJ16, TSMCB17, VAK18, ZLWB20, BJ10, DLWW08, KCC⁺14, MRH12, MMJ09, Moh12, SZSS10, XDX14, YWH⁺13]. **Circuits** [AMF⁺15, BM15, BS15, Che15, CV11, DDP20, DD14, DWK⁺16, DNHL11, HM14, HLS14, HN12, JLL⁺17, KZW⁺15, KKC17, LCSP14, MZR⁺14, MJ11, PLC⁺13, RHB⁺20, SMZ⁺19, SM11, SMT⁺17, TJ13b, TSB15, VGZ11, WWG⁺19, BCT⁺13, HZY⁺12, KT14, LRN05, LWH14, LJ14, MHL08, MN06, PSM⁺06, Sek07, TR10, TR13, WFCX09, XCF08]. **Classical** [DD14, MMD⁺20]. **Classification** [BYHT18, JLL⁺17, KPPB17, NYL⁺20]. **Classifiers** [LQYL19]. **Clock** [CH14, Che15, ANR⁺14, MRH12, XPD12]. **Clock-Controlled** [Che15]. **Clock-Tree** [CH14]. **Clocking** [SSF⁺15]. **Clockless** [MJ11]. **Closed** [CTT⁺20, SSN12]. **Closed-Loop** [SSN12]. **Cloud** [PHS⁺15, AMA⁺14]. **Cluster** [YYBK19]. **Cluster-based** [YYBK19]. **Clustering** [DRSR14]. **Clusters** [PPM⁺13, RT07]. **CMOS** [ASP⁺18, CB09, Che15, HN12, HLH⁺12, KHR⁺15, MP10, Nar05, RT07, RYT⁺07, SCI⁺09, SXL⁺12, ZJS09a, ZJS09c, ZJS09b, ZJS10, ZC07, MRR12]. **CMOS-nano** [CB09]. **CMOS/** [MRR12]. **CMOS/molecular** [RYT⁺07]. **CMPs** [GB18, SKRX13]. **CNFET** [PFOL07]. **Co** [GKT⁺18, IGGR19, KKY⁺20]. **Co-design** [IGGR19]. **Co-optimization** [KKY⁺20]. **Co-Processor** [GKT⁺18]. **Code** [HH11, LPW18]. **Codesign** [WXW⁺17]. **Cofactor** [SSP14]. **Cognitive** [KZL15]. **Coherent** [GB18]. **Color** [LM13]. **Combating** [LPW18]. **Combination** [VMV13]. **Combinational** [SBR19]. **combined** [ZFT13]. **Communication** [LGL15, LMC⁺11, SX11]. **Community** [HIH18]. **compact** [DLWW08]. **Comparative** [DDR⁺16a, JLL⁺17, KWC⁺20, KCWL⁺16]. **Comparison** [LLS017]. **Compatible** [KCD15, KCC⁺14]. **compensation** [MRH12]. **Compilation** [NPS⁺20]. **complete** [WWG⁺19]. **completion** [MNT14]. **Complex** [PSY⁺18, WVG13]. **Complexity** [SGR⁺12]. **Components** [Mit17]. **Composable** [MHW14, ZCDD19]. **Comprehensive** [VOB19]. **Compressive** [QGW20]. **Compressors** [GP17]. **Computation** [AL17, CVK15, HSZM17, MMD⁺20, TNWD20, YLF⁺17, YWH⁺13, WDT14]. **Computational** [MSW14]. **Computer** [AVK16, WZL16, CV12]. **Computers** [JRLR15, PSY⁺18]. **Computing** [Ano18, ASP⁺18, BY18, BOAC⁺20, BH17, DMYT15, FYJ⁺17, HN15, JRLR15, KZL15, KWWI17, LGL15, LP17, Mit16, MS20, NLL⁺17, NV14, NYL⁺20, NHL⁺17, PAF18, SJKS20, SCL17, SVA⁺18, SBR19, SDSS14, SK16, SPR18, TSMCB17, TV17, VAK18, WYZ⁺20, XNK18, ZSPC19, ZK18, AMA⁺14, KMD12, KT14, MHL08, McK07, PG12, VO06, WZSC09, WDH⁺09, YW13]. **Computing-in-memory** [WYZ⁺20]. **Conditional** [PSR17]. **Configuration**

[Bis17]. **configuring** [RT08]. **Congestion** [MKW⁺14, RMBC12]. **Congestion-Aware** [MKW⁺14, RMBC12]. **Connected** [AGD⁺20]. **Connections** [LKC15]. **Conservative** [PPM⁺13]. **consideration** [LWH14]. **Considerations** [MRR12, UMB⁺18, BJ10, WOW⁺10]. **considering** [RYT⁺07, SLS⁺14]. **Constants** [Mog14]. **Constrained** [OGB18, SCLW19b, SCLW19a, XHSC07]. **Constraint** [WXW⁺17]. **Constraints** [CCH16, CNHL08, XHSC07]. **Consumption** [FC18, LBJ⁺16, LYWW13]. **Content** [GG17]. **Contradictory** [DWK⁺16].

Control [GYM⁺17, GCB14, QGW20, ZXC10]. **control-path** [ZXC10]. **Controllable** [MGZ⁺17]. **Controllable-Polarity** [MGZ⁺17]. **Controlled** [Che15, DNHL11, HZSA14, SXL⁺12]. **Converter** [TZS14]. **Convolution** [HYA⁺20, SPR18]. **Convolution-over-time** [SPR18]. **Convolutional** [AHS17, LLX⁺18a, LPM⁺19, PJSM17, PSL⁺19, TZR20, ZH20]. **Coprocessor** [ASP⁺18]. **Core** [BKJ19, DMYT15, KPFM16, YWF18, DJH⁺19]. **Correlation** [AAF13]. **Cosine** [DBG⁺14]. **Cost** [GCJ17, HSZM17, KXY16, LCSP14, LNL19, LBGR08, TR10]. **count** [MCT18]. **Countermeasure** [BBB⁺16, GCTF20]. **Countermeasures** [DLTSNA20]. **Counting** [VAK18]. **Coupled** [GKT⁺18, YLF⁺17, WWG⁺19]. **Coupling** [KKC17]. **CPDI** [XDX14]. **Critical** [CWT14, SHAC19]. **Critical-reliability** [CWT14]. **Criticality** [DRL⁺19, WDG⁺20, YWH⁺13]. **Cross** [BS15, DKK⁺15, KWC⁺20, KKY⁺20, LYWW13, PRG⁺15, SS15, ZGSA15, XDX14]. **Cross-bar** [KKY⁺20]. **Cross-Layer** [BS15, DKK⁺15, PRG⁺15, SS15, ZGSA15, KWC⁺20]. **Cross-Point** [LYWW13]. **cross-power** [XDX14]. **Crossbar** [BSL⁺18, KZL15, LLSO17, NHL⁺17, UMB⁺18, WDW13, WRWW17, YL14, ZH20, ZK18, CQZK14, Tah09, ZMT13].

Crossbar-based [ZH20]. **Crossbars** [MS19, PDL15]. **Crossover** [RHB⁺20]. **Crossover-aware** [RHB⁺20]. **Crypsis** [GSC17]. **Cryptography** [CHA20]. **CSMO** [WDG⁺20]. **Cubes** [DRSR14]. **Current** [KKKK18, MGK18, RFDT15]. **Current-Voltage** [KKKK18]. **Cyber** [LBB⁺18]. **Cyber-Physical** [LBB⁺18]. **Cycle** [ZF15, SZSS10]. **Cycle-Accurate** [ZF15]. **cycle-based** [SZSS10]. **Cycles** [JRLR15]. **cycling** [GD12].

D [CV12, ARLB18, AGD⁺20, VRBS16, BCT⁺13, CKC⁺18, CJ14a, CH14, FRB08, HYWA09, KSB⁺08, KYEB15, KKC17, KWWI17, LKC15, LDK⁺18, LDP⁺20, SCL17, SKRX13, TJ13b, TZS14, VOB19, XLBB06, XCF08, XDX14, XPD12, ZJS10, ZMC15]. **D-IC** [CH14]. **D-NoC** [VOB19]. **D-ReG** [LDP⁺20]. **DAC** [CS07, LC08]. **DAHM** [AMVG12]. **Data** [ACM⁺20, FHF14, NLW⁺20, PSM⁺06, SMT⁺17, SCZ⁺12, ZPL⁺20, AMVG12, ABS⁺12, BPB⁺12, KMD12, SMR⁺12, ZJS09a]. **DC** [TZS14]. **DDR_x** [HTMH18]. **De-obfuscation** [GCTF20]. **Deadline** [SN10]. **Deadlock** [LKC15]. **Deadlock-Free** [LKC15]. **decimal** [Gla14]. **decision** [LJ14]. **Decomposition** [HZSA14]. **Deep** [AHS17, CKC⁺18, KKKK18, LDP⁺20, PSR17, PSY⁺18, SM19, TWLL19]. **Defect** [GUP11, WDW13, YL14, DWL10, PDL07, SCI⁺09, Tah06, Tah09, TWL09, XC08, YYC07]. **Defect-Aware** [GUP11]. **Defect-Free** [YL14]. **defect-tolerant** [YYC07, ZMT13]. **defect/error** [TWL09]. **defect/error-tolerant** [TWL09]. **Defects** [CHN09, KKC17]. **degradation** [Edi14, SLS⁺14]. **Delay** [BY18, CMJ14, CKWK18, Gla14, GCTF20, KKC17, LMM18, SMT⁺17, TGCJ16, CWT14, TR10]. **Delay-based** [Gla14, GCTF20].

Delay/Power [TGCJ16]. **Delivery** [HLH⁺12, WXW⁺17, ZSXY11, ZS08]. **Demand** [HLH⁺12]. **Dense** [SBR19]. **Denser** [RMW⁺17]. **dependability** [PUBV07, TG07]. **Dependence** [NPA⁺12]. **Dependent** [AMF⁺15, ZWL⁺15, LYL19]. **Deployment** [PJSM17]. **Deposited** [LLSO17, BPH⁺11]. **Depth** [HYA⁺20, CV12]. **Depth-wise** [HYA⁺20]. **Design** [ACH⁺17, BKJ19, BSY⁺16, CZ05, CJ16, CTP14, CTT⁺20, DKK⁺15, DRL⁺19, GRPT13, GP17, GG17, GJ17, HM14, JWJ⁺17, KT20, LPB⁺15, LDK⁺18, LPW18, LML⁺19, LZBW20, MRR12, MS20, MCT18, NPH18, NV14, OBLD14, PCD⁺11, PUBV07, SFD17, SAAR20, SDSS14, SS15, SN11, TJ13a, TR10, TR13, TSB15, TSMCB17, UMB⁺18, WOW⁺10, XLBB06, ZJS09a, ZLWB20, ZSPC19, ZGSA15, BJ10, BCT⁺13, CB09, CDG⁺12, CJ14b, CNHL08, DMR06, DLWW08, Gla14, GRS05, HMS⁺05, HZY⁺12, IGGR19, KP10, LBGR08, LMC⁺11, MLK⁺08, MRH12, MN06, Nar05, OSLT06, RMBC12, SXL⁺12, WFCX09, XDX14, XHSC07, ZC07, ZXC10, ZJS09c]. **design-considerations** [BJ10]. **Designing** [AVK16, DBG⁺14, RYT⁺07, TKBM12]. **Designs** [ACJ17, FNO⁺19, SM19, TZS14, ANR⁺14, ZS08]. **Detect** [JWJ⁺17]. **Detection** [BYHT18, CKWK18, HIH18, KPFM16, MLP⁺20, SGR⁺12, ZFT13]. **Detector** [LTKP16]. **Detector-Based** [LTKP16]. **Device** [BJ10, CJ14a, HD14, LZBW20, SAAR20, YJ18, ZLWB20, ZK19, Edi14, RYT⁺07]. **Device-aware** [SAAR20]. **Device-Type** [YJ18]. **Devices** [BOAC⁺20, CKB20, GBLD15, KT20, NPA⁺12, PDL15, STSG17, JRC⁺13, MHL08, RT08, YW13]. **DFR** [BY18]. **diagnosis** [DJRM09, DDM⁺06]. **Diagonal** [HZSA14]. **diagram** [LJ14]. **Digital** [BMB18, Che15, GCB14, HM14, HLS14, KZL15, LBB⁺18, MPM13, OGB18, DJRM09, DDM⁺06, KT14, RMBC12, RBGC14, SC08, XHSC07, XC08, YYC07, ZXC10]. **Digital-Microfluidic** [LBB⁺18]. **dilution** [RBGC14]. **Dimension** [ST20]. **Dimensional** [GUP11, MLK⁺08, WFCX09, XS14]. **diode** [BJ10, DMR06]. **diode-based** [DMR06]. **diodes** [LM13]. **Directed** [CKB20]. **Disassembly** [PRV⁺20]. **displacements** [SWJ07]. **dissipation** [MHL08]. **Distance** [CV11, TT20]. **Distributed** [NHL⁺17, AMVG12, STA⁺12, VMNI08]. **distributed-memory** [VMNI08]. **distribution** [XPD12]. **Disturbance** [ZCX⁺17]. **Division** [XLL⁺18]. **DNA** [MT14, SKB13]. **DNN** [HYA⁺20]. **Domain** [KWC⁺20, Mit17, SBZT20, XDX14]. **Domain-Wall** [Mit17, SBZT20]. **Dot** [DPB11, TNWD20, DWL10, WDH⁺09]. **DPA** [DLTSNA20, ZJ11]. **DRAM** [YYBK19]. **DRAM-Flash** [YYBK19]. **DRAMs** [BJ10]. **Driven** [LHW⁺17, GMM12, WDG⁺20, XS14]. **driver** [HCTK08]. **Droplet** [GHHW19, HRR19, MPM13, XHSC07, XC08]. **Droplet-Aware** [MPM13]. **droplet-interference** [XHSC07]. **Drug** [HLH⁺12]. **DSE** [WDG⁺20]. **DSP** [TWL09]. **Dual** [DLTSNA20, MFA⁺13, PAF18, YJ18, MP10]. **dual-** [MP10]. **Dual-Mode** [PAF18]. **Dual-Rail** [DLTSNA20]. **duty** [GD12]. **DVFS** [MKW⁺14, ZF15]. **DWT** [SGR⁺12]. **Dynamic** [CThG15, GB18, JOF⁺15, MRH12, QGW20, ZMC15, AMVG12, DLL⁺19, WWJ09]. **dynamically** [ZJS09a, ZJS09c, ZJS09b, ZJS10]. **Early** [Ko12, XLW⁺18, ZGSA15]. **Early-Stage** [ZGSA15]. **Easy** [DDR⁺16b]. **ECC** [PFRR17]. **ECDSA** [BBB⁺16]. **ECG** [SCZ⁺12]. **Editor** [CLKG17, SCLW19a, Ano18]. **Editorial**

[CS07, Cha10, IN05, Kar20, McK07, Nar08, SK16, TSB15, TSMCB17, TV17, XCF08, ZLWB20, Shu09]. **Editors** [CLSD18, FNO⁺19, SCLW19b]. **Effect** [CV11, LYWW13, XPD12, HZY⁺12]. **effects** [MLK⁺08]. **Efficiency** [CMM⁺18, LLSO17, TKBM12, ZS08]. **Efficient** [BYHT18, DJRM09, HN12, KT20, LKC15, LPW18, NV14, PJSM17, PSR17, PAF18, SVA⁺18, SDSS14, SMT⁺17, SPR18, TZR20, VSR15, XLW⁺18, ANR⁺14, BY18, GD12, KSB⁺08, LML⁺19, LYL19, MS20, PT12, TR13, SM11]. **Elastic** [PHS⁺15]. **Elasticity** [GOGCK11]. **Electric** [RFDT15]. **Electro** [ACJ17]. **Electro-Photonic** [ACJ17]. **Electroencephalography** [TKBM12]. **Electron** [CEW⁺13, CCH16, HYWA09]. **Electronic** [YXW⁺12, JRC⁺13]. **Electronics** [BY12, Ko12, HCTK08, WZSC09]. **Electrostatic** [GPW⁺15, KKC17]. **electrostatics** [KTW08]. **Electrothermal** [CSKM13, HLH⁺12]. **Element** [SMT⁺17]. **elements** [CW08]. **Embedded** [JWJ⁺17, LBJ⁺16, TZR20, MCT10]. **Embedding** [HIH18, SWK⁺16]. **Embryonics** [TMM⁺07]. **Emerging** [BSY⁺16, DMYT15, DLTSNA20, FNO⁺19, GBLD15, KZW⁺15, TSB15, WZSC09, BC08, Edi14, PUBV07]. **Enabled** [CDP17, WVGP13]. **Encoder** [QGW20]. **Encoding** [ZWL⁺15]. **Energy** [ACH⁺17, BY18, CMM⁺18, DNHL11, GD12, KT20, LPB⁺15, LKC15, LLSO17, LML⁺19, LYWW13, LJL18, LYL19, MS20, NLW⁺20, PFRR17, PSR17, PAF18, RFDT15, SVA⁺18, SCLW19b, SCLW19a, STA⁺12, SMT⁺17, SPR18, TKBM12, TNWD20, VSR15, ZSXY11, KMD12, KSB⁺08, KP10, MHL08, MCT10, SMR⁺12, WOW⁺10, WCSA10, SM11]. **Energy-** [STA⁺12]. **energy-adaptive** [KMD12]. **Energy-Constrained** [SCLW19b, SCLW19a]. **Energy-Efficiency** [LLSO17]. **Energy-Efficient** [KT20, LKC15, PSR17, SVA⁺18, SMT⁺17, SPR18, VSR15, BY18, GD12, LML⁺19, LYL19, MS20, SM11]. **Energy-Neutral** [LPB⁺15]. **Engine** [KWG⁺20, ZK18]. **Engineering** [CCW18, QCF⁺16]. **Engines** [AL17]. **enhancement** [SC06]. **Enhancing** [KMD12]. **Entanglement** [ST20]. **environment** [OSLT06]. **Epilepsy** [SSN12]. **Epileptic** [SGR⁺12]. **equation** [KTW08]. **Era** [TSMCB17]. **Error** [GYM⁺17, NPS⁺20, LWX⁺14, ZXC10]. **Error-Aware** [NPS⁺20]. **Error-Tolerant** [GYM⁺17, TWL09]. **Errors** [LPW18, SKRX13]. **ESOP** [DRSR14]. **Estimation** [CMJ14, GCJ17]. **Eucalyptus** [AMA⁺14]. **Evaluating** [RT07, SJKS20]. **Evaluation** [CTP14, DRL⁺19, GRS05, JLL⁺17, MKW⁺14, CDG⁺12]. **Events** [KWG⁺20]. **Evolutionary** [HM14, Sek07]. **Evolving** [TG07]. **Exascale** [DMYT15]. **Execution** [MPM13]. **Exit** [XLW⁺18]. **Explained** [MLP⁺20]. **Exploiting** [ACM⁺20, KXY16, SLC⁺17, VDB⁺16]. **Exploits** [WYZ⁺20]. **Exploration** [LDK⁺18, WKL16, TJ13a, XLBB06, ZJS09a, ZC07]. **Exploring** [SKRX13]. **Extended** [PPM⁺13]. **Extensible** [KAKSP14]. **Extension** [MMD⁺20]. **Extracting** [NPS⁺20]. **Extraction** [YL14]. **Extractor** [RFDT15]. **Fabric** [DPB11]. **Fabrication** [CCH16, VDB⁺16]. **Fabrication-Induced** [VDB⁺16]. **Fabrics** [NLK⁺13]. **Failure** [KYEB15, KKY⁺20, PFRR17, VAK18]. **Failure-Aware** [PFRR17]. **Fast** [SKB13, WDG⁺20, YL14]. **Fault** [BBB⁺16, BKJ19, CVK15, DJ16, HH11, JWJ⁺17, LCK19, MGZ⁺17, SLC⁺17, VAK18, DDM⁺06, SCI⁺09]. **Fault-Based** [BBB⁺16]. **Fault-Tolerant** [BKJ19, CVK15, DJ16, HH11, LCK19, MGZ⁺17]. **faults** [CHN09]. **Feature** [SPR18]. **Feedback**

[BY18]. **Field** [BMB18, KR18, NPA⁺12, WWG⁺19, HZY⁺12]. **Field-coupled** [WWG⁺19]. **field-effect** [HZY⁺12]. **Fields** [CThG15]. **File** [WX15]. **Files** [ZCX⁺17]. **Fin** [BSS16]. **Fine** [SMT⁺17, MLK⁺08]. **Fine-Grain** [SMT⁺17, MLK⁺08]. **FinFET** [BJ10, BSS16, CMJ14, CJ14a, CJ14b, CJ15, DLTSNA20, GJ17, KCWL⁺16, LJ10, MMJ09, SSF⁺15, TJ13a, TJ13b, TGCJ16, YJ18, ZJ11]. **FinFET-Based** [SSF⁺15, ZJ11, LJ10]. **FinFETs** [CJ16, GVR17, GJ17]. **Flash** [HC15, YYBK19]. **Flexible** [BKJ19, PAF18, HCTK08, LWH14]. **Flip** [AM18]. **Flip-N-Write** [AM18]. **Floating** [HC15, NV14]. **Flow** [GCB14, ZPL⁺20, DMR06, ZJS09c]. **fluids** [RBGC14]. **Fluigi** [HD14]. **fly** [IASK20]. **Form** [CTT⁺20]. **Formal** [CCTP08, GYM⁺17]. **Formalizing** [FHFK14]. **formulation** [YYC07]. **formulations** [ZMT13]. **FPGA** [LLX⁺18a, LLX⁺18b, LYL19, LMM18]. **FPGA-Based** [LLX⁺18b]. **FPGAs** [RT07, ZPL⁺20]. **Framework** [CJ15, KPFM16, LPB⁺15, LH20, LLX⁺18b, NPH18, PRG⁺15, SDSS14, MCT10]. **Fredkin** [DJ08]. **Free** [DBG⁺14, GLMG⁺15, LKC15, Mog14, WRWW17, YL14]. **Frequency** [JOF⁺15, KAKSP14, LTKP16]. **Frontiers** [CLSD18]. **Frontside** [DDR⁺16a]. **Fully** [CCWCC15, KXY16, TZR20]. **Function** [LQYL19]. **Functional** [GCO⁺11, Sek07]. **Functions** [DDR⁺16b, SWK⁺16, UMB⁺18, PT12]. **Fundamentals** [PLC⁺13]. **Future** [DLTSNA20, CA11, MN06].

GALS [PCD⁺11]. **Garbage** [DBG⁺14, Mog14, TR10]. **Garbage-Free** [DBG⁺14, Mog14]. **GARDENIA** [XCS⁺19]. **gas** [HYWA09]. **Gate** [HC15, LSH14]. **Gated** [BJ10]. **Gated-diode** [BJ10]. **Gates** [AHSZ16, CJ14a, DWK⁺16, HZSA14, DJ08].

Gating [HN12, ZF15]. **Geckos** [GSC17]. **gem5** [CJ15]. **gem5-PVT** [CJ15]. **generalized** [RBGC14]. **Generation** [XCS⁺19]. **Generators** [LTKP16, ST20]. **Genes** [AAFM13]. **Genetic** [MZR⁺14]. **genomics** [GN08]. **geographically** [AMVG12]. **Geometric** [DSB16]. **Global** [DDP20, XPD12]. **GPGPU** [LCY19, TWLL19, WX15]. **GPU** [LLX⁺18a, LML⁺19]. **GPU-Outperforming** [LLX⁺18a]. **GPUs** [ZCX⁺17]. **Grain** [SMT⁺17, MLK⁺08]. **Graph** [XCS⁺19]. **Graphene** [DDP20, HC15, KHR⁺15, WZSC09]. **Graphene-based** [WZSC09]. **green** [AMVG12, PG12]. **greener** [GD12]. **Grid** [ZGSA15]. **Guarantees** [GYM⁺17]. **Guest** [CLKG17, SCLW19a, Shu09, SK16, TSB15, TSMCB17, ZLWB20, Ano18, CLSD18, FNO⁺19, SCLW19b]. **Guided** [WDG⁺20].

H [HCTK08]. **Hack** [MLP⁺20]. **Hamming** [TT20]. **Hardening** [LBB⁺18]. **Hardware** [BSY⁺16, BHL19, BVM⁺19, CLKG17, CLSD18, CCWCC15, CKWK18, GFZ13, HIH18, IGGR19, KKY⁺20, KCD15, LQYL19, LJL18, LCK19, PJSM17, SLC⁺17, SBR19, SCLW19b, SCLW19a, WYZ⁺20, XLW⁺18, TMM⁺07]. **Hardware-Based** [LQYL19]. **Hardware-Software** [IGGR19]. **Harvesting** [RFDT15, ZSXY11, KP10, MCT10, WOW⁺10, WCSA10]. **HDL** [OSLT06]. **HDLQ** [OSLT06]. **Hermitian** [AHSZ16, HZSA14]. **Heterogeneous** [AAFM13, BHL19, CTP14, HTMH18, IASK20, KHR⁺15, LGL15, LDP⁺20, MMD⁺20, SM19, VK18]. **Heterojunction** [KCWL⁺16]. **Heuristic** [BM15, PT12]. **Hiding** [FHFK14]. **Hierarchical** [YXW⁺12]. **Hierarchy** [PHS⁺15, VSRR15]. **High** [ASP⁺18, BYHT18, BH17, CJ16, GN08, HRR19, LTKP16, LML⁺19, MTC⁺08, PAB⁺17, PSY⁺18, SC08, XLL⁺18, Bea11, BPH⁺11, CA11, LMC⁺11, MN06, PFOL07,

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 [MP10]. **high-efficiency** [ZS08]. **High-level**
 [MTC⁺08, SC08]. **High-Performance**
 [ASP⁺18, BH17, CJ16, PSY⁺18, HRR19,
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 [HN12]. **History** [Ko12]. **HMC** [HTMH18].
Homogeneous [HRR19]. **hosting**
 [AMVG12]. **HTM** [ZK19]. **Human**
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 [DJ16, DLL⁺19, HH11, LNL19, LQYL19,
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Implicant-Implicit [PT14a]. **implications**
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[CMM⁺18, ON15, SCL17, YWF18].
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 [WOW⁺10]. **Induced** [VDB⁺16]. **Inductor**
 [TZS14]. **Inductor-Based** [TZS14].
inductors [SXL⁺12]. **Inexact** [KT14].
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 [AAF13, HLS14, PRV⁺20, DWL10].
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integral [KTW08]. **Integrated**
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 [LJ10]. **Interconnects**
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Interpreting [GCB14]. **interstitial** [SC06].
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Learning-Based [ZY18]. **less** [HYA⁺20].

Level [ARLB18, CCW18, CZW⁺19, DRL⁺19, JWJ⁺17, LLX⁺18b, LCY19, MTC⁺08, MP10, Moh12, NLW⁺20, SC08].

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Limit [LCK19]. **limits** [GMM12].

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PT14a, SJKS20, SSP14, SWK⁺16, VGZ11, ANR⁺14, CJ14b, DJ08, HMS⁺05, LJ14, LCT12, MTC⁺08, PT12, TR13, ZMT13].

Logic-Based [KT20, NLL⁺17, TR13]. **Long** [ZSPC19]. **Loop** [SSN12]. **LosPem** [LH20].

Loss [HLS14]. **Low** [BS20, CJ16, Che15, GBLD15, GLMG⁺15, KZW⁺15, KHR⁺15, KR18, LNL19, MGS⁺12, MMJ09, PRG⁺15, PSL⁺19, QGW20, RMW⁺17, SLC⁺17, STSG17, SGR⁺12, SM19, SSF⁺15, Tah09, TSB15, ZJS10, ZJ11, ZPL⁺20, ABS⁺12, CJ14b, CA11, GGTG⁺20, GJ17, KT14, LBGR08, LMC⁺11, MFA⁺13, WDH⁺09].

Low-Cost [LNL19, LBGR08]. **low-latency** [CA11]. **Low-overhead** [Tah09].

Low-Power [GBLD15, GLMG⁺15, KHR⁺15, KR18, PRG⁺15, PSL⁺19, QGW20, RMW⁺17, SGR⁺12, BS20, MMJ09, SM19, ZJS10, ABS⁺12, KT14, LBGR08, LMC⁺11, WDH⁺09]. **Low-Swing** [SSF⁺15]. **LTPS** [LBGR08].

Machine [GGTG⁺20, KPPB17, KPFFM16, MS19, SCLW19b, SCLW19a, YP17].

Machine-Learning [KPFFM16]. **Machines** [NPS⁺20]. **Magnetic**

[LBJ⁺16, VDB⁺16, AKW⁺13, DK09]. **Main** [YYBK19, YXD⁺17]. **majority** [HMS⁺05].

majority-like [HMS⁺05]. **Making** [AGD⁺20]. **Management**

[DJH⁺19, HTMH18, LHW⁺17, LHHZ19, PHS⁺15, PRG⁺15, ZJ11, FRB08, GMM12, MP10, MCT10]. **manager** [AMVG12].

Managing [NPH18]. **Manufacturing**

[CZW⁺19]. **Manufacturing-Based** [CZW⁺19]. **Many** [DMYT15, KPFFM16].

Many-Core [DMYT15, KPFFM16].

Manycores [PHS⁺15]. **Map** [RMG15].

Mapping

[FC18, GCO⁺11, GUP11, ZMT13]. **March** [SN10]. **Markov** [GD12, KR18]. **Matching**

[RDH14]. **MATE** [PHS⁺15]. **materials** [BPH⁺11]. **Matrix**

[DD14, GCO⁺11, GUP11]. **Maximum**

[KAKSP14]. **means** [VOB19]. **Measure** [BS15]. **mechanical** [LWH14, WCSA10]. **Mechanisms** [LBB⁺18]. **MEDA** [HRR19]. **MEDA-based** [HRR19]. **Memories** [CCWCC15, HH11, KWC⁺20, LBJ⁺16, SBT20, SCZ⁺12, YYPK17, GRS05, RYT⁺07]. **Memory** [GLMG⁺15, GG17, HTMH18, HC15, IASK20, KPPB17, KHR⁺15, KKKK18, KMS⁺20, LHHZ19, LML⁺19, LH20, LYWW13, MRR12, Mit17, NYL⁺20, NHL⁺17, PHS⁺15, PAF18, RMW⁺17, SBZT20, SBR19, TT20, WDW13, WRWW17, WZL16, YYPK17, YYBK19, YXD⁺17, ZSPC19, ABS⁺12, AKW⁺13, CSKM13, KSG14, PR13, SKRX13, TCSV09, VMNI08, WYZ⁺20, ZJS09a]. **Memory-Centric** [KPPB17, NYL⁺20]. **Memory-Storage** [YYPK17]. **Memristive** [CZQK15, GLMG⁺15, KZL15, MRR12, SAAR20, TT20, UMB⁺18, WKL16, YW13, ZK18]. **Memristor** [ASP⁺18, BYHT18, QGW20]. **Memristor-Based** [BYHT18, QGW20]. **Memristor-CMOS** [ASP⁺18]. **Memristors** [CHA20]. **mesh** [EWKNW07]. **meshless** [KTW08]. **Method** [BBB⁺16, DDP20, DLL⁺19, GCO⁺11, XYM18, YYBK19, ZSXY11, MHM⁺08]. **Methodology** [CMJ14, CH14, CB09]. **Methods** [CZQK15, TSMCB17, CCTP08]. **metric** [SMR⁺12]. **Metrics** [HSZM17]. **MFNW** [AM18]. **MiC** [LCY19]. **Microarchitectural** [GOGCK11]. **microarchitecture** [MLK⁺08]. **microarchitectures** [XCF08]. **Microarrays** [SKB13]. **Microdevices** [VMV13]. **Microfluidic** [BMB18, GCB14, HD14, LBB⁺18, MPM13, OGB18, DJRM09, DDM⁺06, RMBC12, RBGC14, SC08, XHSC07, XC08, YYC07, ZXC10]. **Microfluidics** [GHHW19, CZ05, SC06]. **microfluidics-based** [CZ05, SC06]. **Migration** [IASK20]. **Millimeter** [MKW⁺14, KK12]. **Millimeter-Wave** [MKW⁺14]. **Million** [AVK16]. **Million-Qubit** [AVK16]. **Minimization** [CCH16, LJL18]. **Minimum** [LCSP14]. **MINLP** [BM15]. **Mitigate** [ZH20]. **Mitigation** [NLK⁺13, WYZ⁺20]. **Mixed** [DRL⁺19, LPM⁺19]. **Mixed-Criticality** [DRL⁺19]. **mixing** [RBGC14]. **MLC** [AM18, LHW⁺17]. **MLC/TLC** [AM18]. **MN** [PHS⁺15]. **MN-MATE** [PHS⁺15]. **mNoC** [PDL15]. **Mobile** [TWLL19, TSMCB17, YYPK17, WDH⁺09]. **Mode** [BSS16, PAF18]. **Model** [BM15, CCWCC15, FYJ⁺17, MZR⁺14, MMD⁺20, DLWW08, MHL08, MTC⁺08, ZC07]. **Modeling** [LTKP16, MN06, SSN12, TGCJ16, TKBM12, ZF15, KCC⁺14, KSG14, PFOL07]. **Models** [KMS⁺20, KCD15, MHW14, FRB08]. **Modular** [MHW14]. **Modularization** [FHFK14]. **Modulation** [MGK18]. **Module** [MPM13, LCJ14, ZS08]. **Module-Based** [MPM13]. **Modules** [TGCJ16]. **Molecular** [CNHL08, DPB11, GPW⁺15, PDL15, WDW13, KSG14, KTW08, MHL08, RYT⁺07]. **Monitoring** [MGS⁺12]. **Monolayer** [RMW⁺17]. **Monolithic** [CKC⁺18, KKC17, BCT⁺13, XDX14]. **MOS** [KZW⁺15]. **MRAM** [AKW⁺13, DSB16, NLW⁺20, PAF18, SFD17, STSG17, VDB⁺16, ZCDD19]. **MRAM-Based** [VDB⁺16, ZCDD19]. **MRAMs** [MFA⁺13, PFRR17]. **MTJ** [MS19, MS20]. **MTJ-based** [MS20]. **Muller** [LJ14]. **Multi** [DJH⁺19, DRL⁺19, LLSO17, LLX⁺18b, LCY19, PRG⁺15, LM13]. **Multi-Abstraction-Level** [DRL⁺19]. **Multi-core** [DJH⁺19]. **Multi-Layer** [LLSO17]. **Multi-level** [LCY19]. **Multi-Level-Optimization** [LLX⁺18b]. **multi-peak** [LM13]. **Multi-Processors** [PRG⁺15]. **Multicast** [CDP17, VOB19]. **Multicast-Enabled** [CDP17]. **multicomputer** [VMNI08]. **Multicore** [CDP17, PCD⁺11, WXW⁺17, ZMC15,

KWFH12, SLS⁺14]. **multidiscipline** [Moh12]. **Multilayer** [HC15, MHM⁺08, BPH⁺11]. **Multilevel** [MRR12, VSR15, CWL⁺13, FGZ14]. **Multiparameter** [CJ16, GJ17]. **Multiple** [DDM⁺06, HZSA14, MMJ09]. **Multiple-Controlled** [HZSA14]. **Multiplexing** [XLL⁺18]. **Multiplication** [GP17, HYA⁺20]. **Multiplication-less** [HYA⁺20]. **Multiplier** [LNL19, LQYL19]. **Multipliers** [Mog14, SVA⁺18]. **Multiprocessor** [YXW⁺12, CJ14b, GMM12, LWX⁺14]. **multiprocessors** [BPH⁺11, CA11]. **Multistate** [KHR⁺15]. **multiwalled** [SXL⁺12]. **MV** [TWLL19]. **MV-Net** [TWLL19]. **mVLSI** [CKB20]. **mW** [WOW⁺10].

N [AM18]. **NANA** [PDLS06]. **Nano** [GKT⁺18, YLF⁺17, CB09, LDL10, MP10, PDLS06, SCI⁺09, ZMT13, ZJS10, ZC07, MRR12, ZJS09c, ZJS09a, ZJS09b]. **nano-architectures** [ZMT13]. **nano-CMOS** [MP10, SCI⁺09, ZC07]. **Nano-Oscillator-Based** [YLF⁺17]. **Nano-Oscillators** [GKT⁺18]. **nano-scale** [LDL10, PDLS06]. **nano/CMOS** [ZJS10, ZJS09c, ZJS09a, ZJS09b]. **NANOARCH** [Bah09]. **NANOARCH07** [Shu09]. **NANOARCH'09** [DR11]. **nanoarchitectures** [Tah06, Tah09]. **Nanoarray** [FGZ14, GRS05]. **Nanocomputing** [WWG⁺19, WWJ09]. **Nanocrossbar** [GUP11]. **Nanodevice** [GCO⁺11, WZSC09]. **Nanodevice-Based** [GCO⁺11]. **Nanodevices** [CZQK15]. **Nanoelectronic** [LZBW20, TSMCB17, YL14]. **nanofabrics** [DMR06]. **Nanoelectronic** [ZLWB20]. **Nanomagnet** [CNH12]. **Nanomagnetic** [VGZ11]. **nanometer** [CCTP08]. **nanometer-scale** [CCTP08]. **Nanophotonic** [BS20, ISI⁺18, LLSO17, LKL⁺18, NPA⁺12, PDL15, XYM18, LMC⁺11, SX11]. **Nanopipelined** [PT14b]. **Nanoribbon** [HC15, KHR⁺15]. **Nanoribbon-CMOS** [KHR⁺15]. **Nanoribbons** [DDP20]. **Nanoscale** [BOAC⁺20, JRC⁺13, NLK⁺13, Shu09, CQZK14, EWKNW07, Nar05, RT07, RT08, WZSC09]. **nanostructures** [HYWA09]. **nanosystem** [TWL09]. **Nanotube** [GRPT13, HC15, DLWW08, HZY⁺12, MN06, SXL⁺12]. **Nanotube-Based** [GRPT13, MN06]. **Nanowire** [Deh05, RKM15]. **Nanowire-based** [Deh05]. **nanowires** [SRD⁺06]. **Navigating** [CTT⁺20]. **NBTI** [KCC⁺14, LSH14, SLS⁺14, YWH⁺13]. **NBTI-aware** [YWH⁺13]. **Near** [GVRR17, KXY16, Mit16, NPA⁺12, SCL17, TNWD20]. **Near-** [GVRR17]. **Near-Field** [NPA⁺12]. **Near-Threshold** [Mit16, SCL17]. **negative** [KCC⁺14]. **NEMS** [HN12]. **net** [BPB⁺12, HYA⁺20, TWLL19]. **net-zero** [BPB⁺12]. **Network** [ACM⁺20, BKJ19, Bis17, CMM⁺18, CDP17, CCWCC15, DJ16, GCTF20, IGGR19, KKKK18, LDK⁺18, LQYL19, LLX⁺18b, MSCS19, PDL15, VK18, VSM19, WL19, XYM18, ZSPC19, BPH⁺11, CDG⁺12, LMC⁺11, PDLS06, PT14b, WVG13, ZFT13, YXW⁺12]. **network-enabled** [WVG13]. **Network-on-Chip** [BKJ19, Bis17, CMM⁺18, DJ16, LDK⁺18, MSCS19, PDL15, VK18, VSM19, ACM⁺20, BPH⁺11, CDG⁺12, WVG13, YXW⁺12]. **Networks** [AHS17, BS20, VRBS16, BHL19, BVM⁺19, CKC⁺18, CTP14, Dea14, FNO⁺19, KCD15, LPB⁺15, LLX⁺18a, LNL19, LDP⁺20, LJL18, LPM⁺19, MS20, PJSM17, PSL⁺19, PSY⁺18, SBZT20, SM19, SPR18, TZR20, XLW⁺18, ZCDD19, ZH20, GD12, LJ10, LDL10, LWX⁺14, XPD12]. **Networks-on-Chip** [VRBS16, CTP14, FNO⁺19]. **Neural** [AHS17, BHL19, BVM⁺19, CKC⁺18,

CThG15, CCWCC15, IGGR19, KKKK18, KCD15, LLX^{+18a}, LNL19, LQYL19, LDP⁺²⁰, LLX^{+18b}, LJL18, LYL19, LPM⁺¹⁹, MS20, PSL⁺¹⁹, SBZT20, SVA⁺¹⁸, SM19, SPR18, WL19, XLW⁺¹⁸, ZH20]. **Neuro** [CZQK15, CQZK14]. **Neuro-Inspired** [CZQK15, CQZK14]. **Neurogenesis** [ZK19]. **Neuromemrisitive** [ZK19]. **Neuromorphic** [Ano18, AMF⁺¹⁵, BOAC⁺²⁰, HN15, KZL15, KCD15, MKSW17, PSY⁺¹⁸, RMG15, SAAR20, SPR18, WKL16, ZWL⁺¹⁵]. **Neuron** [HIH18]. **Neurons** [VOB19, ZCDD19]. **Neutral** [LPB⁺¹⁵]. **Next** [GFZ13, XCS⁺¹⁹]. **Next-Generation** [XCS⁺¹⁹]. **NFIC** [AGD⁺²⁰]. **NML** [DNHL11]. **NoC** [ACJ17, AGD⁺²⁰, DRL⁺¹⁹, KYEB15, MKW⁺¹⁴, VOB19, ZF15]. **NoC-Based** [ZF15]. **NoCs** [FC18, GB18, LKC15, LCK19, SHAC19, ZY18]. **Node** [PHS⁺¹⁵, GGTG⁺²⁰, YWH⁺¹³]. **Nodes** [GVR17, LWM⁺¹⁴, TGCJ16]. **Non** [GKT⁺¹⁸, MCT18, STSG17, YYPK17, YXD⁺¹⁷, ZPL⁺²⁰]. **Non-Boolean** [GKT⁺¹⁸]. **Non-Restoring** [MCT18]. **Non-Volatile** [STSG17, YYPK17, YXD⁺¹⁷, ZPL⁺²⁰]. **Nonhierarchical** [PPM⁺¹³]. **Nonlinear** [KKKK18]. **Nonvolatile** [HC15, LBJ⁺¹⁶, SCZ⁺¹², SKRX13]. **Note** [WWG⁺¹⁹]. **Novel** [DJ16, LH20, SKB13, TZS14, ZSXY11, RT08]. **NP** [WWG⁺¹⁹]. **NP-complete** [WWG⁺¹⁹]. **NTC** [CV12]. **NUCA** [PAB⁺¹⁷]. **Number** [HH11, LTKP16, WL19].

Obfuscation [CZW⁺¹⁹, GCTF20]. **Objectives** [DWK⁺¹⁶]. **Observing** [TGCJ16]. **off** [ZFT13]. **Off-Chip** [WXW⁺¹⁷, ZFT13]. **Offline** [LKL⁺¹⁸, MT14]. **offs** [CDG⁺¹²]. **On-Chip** [CLKG17, CZQK15, CKC⁺¹⁸, LWM⁺¹⁴, SCLW19a, TZS14, XYM18, CLSD18, CWL⁺¹³, LWX⁺¹⁴, SCLW19b, CA11, LMC⁺¹¹]. **On-Device** [ZK19]. **on-node** [GGTG⁺²⁰]. **On-the-fly** [IASK20]. **On/Off** [WXW⁺¹⁷]. **On/Off-Chip** [WXW⁺¹⁷]. **One** [HSZM17, WRWW17]. **One-Step** [WRWW17]. **One-Way** [HSZM17]. **Online** [LJL18, ZPL⁺²⁰]. **Operation** [MPM13]. **Operations** [CVK15]. **Optical** [BPS19, VRBS16, DWK⁺¹⁶, GB18, NPA⁺¹², PAB⁺¹⁷, XLL⁺¹⁸, YXW⁺¹², ZY18, CA11]. **Optical-Electronic** [YXW⁺¹²]. **Optimization** [DKK⁺¹⁵, DWK⁺¹⁶, LDK⁺¹⁸, LLX^{+18b}, LCY19, LKL⁺¹⁸, NLW⁺²⁰, PFRR17, TGCJ16, YJ18, ZY18, ZGSA15, DLWW08, KKY⁺²⁰, LWH14, WFCX09, ZJS09c]. **Optimizations** [SBR19, CWL⁺¹³]. **Optimize** [DJ16]. **Optimized** [CCWCC15, KKKK18, MS17, MCT18, ON15]. **optimizing** [TR10]. **Oracle** [GCJ17]. **Order** [CKWK18]. **Organizing** [DK09, RMG15, LDL10, PDL07]. **Oscillator** [FYJ⁺¹⁷, YLF⁺¹⁷, SXL⁺¹², ZFT13]. **Oscillator-Based** [FYJ⁺¹⁷]. **Oscillators** [GKT⁺¹⁸]. **Outperforming** [LLX^{+18a}]. **outputs** [TR10]. **Overhead** [SLC⁺¹⁷, ZJ11, ZPL⁺²⁰, Tah09]. **Overlay** [PAB⁺¹⁷].

p [DPB11]. **p-QCA** [DPB11]. **Packet** [BYHT18]. **Packets** [Bis17]. **Page** [IASK20, KXY16]. **PANE** [VSM19]. **Papers** [SN10]. **paradigm** [LBGR08, WZSC09]. **Parallel** [Dea14, ISI⁺¹⁸, DJRM09, STA⁺¹²]. **Parallelism** [JOF⁺¹⁵, GN08]. **parameter** [RYT⁺⁰⁷]. **Parametric** [FRB08]. **Parasitic** [ZH20]. **Parasitics** [KCWL⁺¹⁶]. **Part** [SCLW19a, LZBW20, ZJS09c, ZJS09b, ZLWB20]. **Partial** [LKC15]. **Partially** [AGD⁺²⁰]. **Partitioning** [LRN05]. **Passive** [GSC17]. **Path** [CKWK18, GB18, VAK18, WRWW17, CWT14, ZXC10]. **Path-Setup** [GB18]. **paths** [ANR⁺¹⁴]. **Pattern** [HSZM17, NLW⁺²⁰]. **Pauli** [HZSA14]. **PCB**

[MLP⁺20]. **PCM** [KXY16, LHW⁺17]. **peak** [LM13]. **Peres** [DJ08]. **Performance** [AVK16, ASP⁺18, BSS16, BH17, CDG⁺12, CKC⁺18, CJ16, DNHL11, HTMH18, LYWW13, MKW⁺14, ON15, PSY⁺18, SCL17, VAK18, VOB19, YWF18, Bea11, BPH⁺11, DLWW08, HRR19, LMC⁺11, LML⁺19, LCT12, MN06, PFOL07, RT07, STA⁺12, WWJ09, SM11]. **performance-aware** [STA⁺12]. **Performance-Temperature** [HTMH18]. **Permutation** [GCTF20]. **Persistent** [KMS⁺20, LHHZ19, LH20]. **Phase** [FYJ⁺17, SMT⁺17, WZL16, JRC⁺13]. **Phase-Change** [WZL16]. **Photonic** [ACJ17, BPH⁺11, CDP17, FC18, VK18]. **Photonics** [XNK18, Bea11]. **Physical** [LBB⁺18, UMB⁺18, BCT⁺13, HZY⁺12]. **PicoServer** [KSB⁺08]. **Piezoelectric** [RFDT15]. **pillar** [MFA⁺13]. **Pin** [WXW⁺17, XHSC07]. **pin-constrained** [XHSC07]. **Pipeline** [SM11]. **Piracy** [SMZ⁺19]. **PLA** [CNH12]. **Placement** [BM15, VRBS16, BKJ19, CKB20, LWH14, RHB⁺20, WWG⁺19, YYC07, LRN05]. **PLAs** [CHN09]. **Plasticity** [AMF⁺15, LYL19]. **Pluggable** [VSM19]. **Point** [LYWW13, NV14]. **Pointing** [LBJ⁺16]. **Polarity** [MGZ⁺17]. **Policies** [ON15]. **Polynomials** [LP17]. **Pooling** [ZMC15]. **portability** [GN08]. **post** [XS14]. **post-bond** [XS14]. **Potential** [SJKS20]. **Power** [CKC⁺18, Che15, DJH⁺19, FC18, GBLD15, GLMG⁺15, HN12, JRLR15, KZW⁺15, KHR⁺15, KR18, LBJ⁺16, LHW⁺17, LWM⁺14, LKL⁺18, MGS⁺12, PRG⁺15, PSL⁺19, QGW20, RMW⁺17, STSG17, SGR⁺12, TGCJ16, TSB15, WXW⁺17, ZJ11, ZSXY11, ZY18, ZGSA15, ZF15, ABS⁺12, ANR⁺14, BS20, GMM12, GGTG⁺20, KT14, KK12, LJ10, LBGR08, LMC⁺11, MMJ09, MP10, MFA⁺13, SM19, WDH⁺09, XDX14, ZS08, ZJS10, ZFT13]. **power-efficient** [ANR⁺14]. **Power-Gating** [HN12, ZF15]. **Power-Utility-Driven** [LHW⁺17]. **Powered** [JRLR15, ZPL⁺20, WCSA10]. **Powerful** [VMV13]. **PPU** [GYM⁺17]. **pre** [XS14]. **pre-bond** [XS14]. **Precise** [WDG⁺20]. **Predict** [BS20]. **Prediction** [MKSW17]. **Predictive** [DKK⁺15, ZC07]. **Prefetching** [YBKB19]. **Pressure** [MGS⁺12]. **Prevention** [MLP⁺20]. **Primitive** [GRPT13]. **Primitives** [BSY⁺16, HMS⁺05]. **Printed** [RHB⁺20]. **Proactive** [PRG⁺15]. **Probabilistic** [KSG14, ZCDD19, KT14]. **Probability** [VAK18]. **Probes** [SKB13]. **problem** [EWKNW07]. **Process** [GPW⁺15, KAKSP14, MGK18, SCL17, XYM18, XPD12]. **Process-Variation-Tolerant** [XYM18]. **Processing** [AL17, BH17, KWG⁺20, XCS⁺19, Gla14, KT14, LM13]. **processing-in-wire** [Gla14]. **Processor** [GKT⁺18, GYM⁺17, KZL15, Mit17, STSG17, WXW⁺17, YJ18]. **Processors** [KAKSP14, PRG⁺15, SLC⁺17, WKL16, ZMC15, ZWL⁺15]. **productivity** [SMR⁺12]. **Programmable** [AMF⁺15, DPB11, Deh05, WDH⁺09]. **Programming** [KMS⁺20]. **Project** [TMM⁺07]. **Projection** [DLTNSA20]. **Promises** [YW13]. **Prospect** [PFOL07]. **Prosthesis** [SSN12]. **Protecting** [LCK19]. **Protein** [PPM⁺13]. **Protocol** [YWF18]. **PROTON** [VRBS16]. **Provide** [SLC⁺17]. **Providing** [KMS⁺20]. **ProWATCH** [PRG⁺15]. **Pruning** [AHS17]. **PUF** [DSB16, KT20, VDB⁺16]. **PUFs** [IGR⁺16]. **PVFS** [JOF⁺15]. **PVT** [CMJ14, CJ14a, CJ15, TGCJ16, YJ18]. **QCA** [CNHL08, CHN09, DPB11, DK09, Gla14, GPW⁺15, HMS⁺05, LRN05, MHL08, OSLT06, SWJ07, SDSS14, TCSV09]. **QCA-based** [CHN09]. **QCOR** [MMD⁺20]. **QLib** [LCJ14]. **Quantifying** [HLS14, NPH18]. **Quantization** [XLW⁺18].

Quantized [LNL19]. **Quantum** [AVK16, AHSZ16, BM15, BH17, CVK15, CV11, DD14, DPB11, GCJ17, HZSA14, HSZM17, LCSP14, LCJ14, MMD⁺20, MCT18, NV14, PSY⁺18, RDH14, ST20, TNWD20, VAK18, CV12, DWL10, MTC⁺08, TR10, VO06, VMNI08, WDH⁺09]. **Quantum-Classical** [MMD⁺20]. **Quantum-Dot** [DPB11, TNWD20, DWL10]. **Quantum-Logic** [AHSZ16]. **Quaternary** [SJKS20]. **Qubit** [AVK16, MCT18, NPS⁺20]. **QuickRecall** [JRLR15]. **QuTiBench** [BHL19].

Racetrack [KWC⁺20]. **Radial** [SRD⁺06]. **Radix** [GUP11]. **Rail** [DLTSNA20]. **RAM** [CWL⁺13, LPW18, RKM15, ZCX⁺17]. **Random** [KR18, LTKP16, LBJ⁺16, AKW⁺13, CSKM13, SWJ07]. **Randomized** [SHAC19]. **Randomly** [CThG15]. **Rate** [QGW20]. **Read** [WRWW17, ZCX⁺17]. **Real** [DRL⁺19, GSC17, JWJ⁺17, KR18, KPFM16, SM19, TWLL19, LWX⁺14]. **Real-Time** [DRL⁺19, GSC17, JWJ⁺17, KR18, KPFM16, TWLL19, SM19, LWX⁺14]. **Realization** [BSL⁺18]. **Realizing** [SDSS14]. **reasonable** [CNHL08]. **Recognition** [CKC⁺18, PSR17, TZR20]. **Reconciliation** [IASK20]. **Reconfigurable** [CEW⁺13, CCH16, CDP17, CNH12, KPPB17, KZL15, NLL⁺17, VK18, EWKNW07, Sek07, SC06, Tah06, ZJS09a, ZJS09c, ZJS09b, ZJS10]. **Recorder** [SCZ⁺12]. **Recovery** [KCC⁺14, Sek07, ZXC10]. **Recurrent** [LJL18, SBZT20]. **Recycle** [BS20]. **REDELf** [LKC15]. **Redesign** [YXD⁺17]. **Reduced** [SGR⁺12]. **Reducing** [FC18, LBJ⁺16]. **reduction** [LSH14]. **Redundancy** [WDW13, SC06, WWJ09]. **Redundant** [HH11]. **Reed** [LJ14]. **Reference** [MGK18]. **ReG** [LDP⁺20]. **Register** [CZW⁺19, WX15, ZCX⁺17, TCSV09].

Regular [DDR⁺16b]. **Reinforcement** [DJH⁺19]. **rejuvenation** [AMA⁺14, CNPR14, MNT14, ZJT⁺14]. **Relativistic** [MJ11]. **Release** [HLH⁺12]. **Release-on-Demand** [HLH⁺12]. **Reliability** [ANR⁺14, HCTK08, KYEB15, LYWW13, LBB⁺18, CWT14, DJH⁺19, DK09, Edi14, TMM⁺07]. **Reliable** [KT20, McK07, WWJ09]. **Rematerialization** [SBR19]. **Replacement** [ON15]. **replicating** [TMM⁺07]. **Representation** [WL19]. **ReRAM** [BOAC⁺20, KKY⁺20, LDP⁺20, WL19]. **ReRAM-Based** [WL19, KKY⁺20, LDP⁺20]. **Research** [WWG⁺19]. **Reservoir** [BY18, LMM18]. **Residue** [HH11]. **Resilience** [ACM⁺20]. **Resiliency** [SFD17]. **Resilient** [LCT12]. **Resistance** [ZJ11, ZH20]. **Resistive** [BSL⁺18, DSB16, KKKK18, WRWW17, ZH20]. **resonant** [LM13]. **Resource** [AVK16, NV14, OGB18, PHS⁺15, TZR20]. **Resource-Constrained** [OGB18]. **Resource-Efficient** [NV14, TZR20]. **Response** [CMJ14]. **Restoring** [MCT18]. **Restricted** [YP17]. **Resulting** [SDSS14]. **Retail** [KK12]. **Rethinking** [WZL16]. **Retrieval** [BBB⁺16]. **Reuse** [CH14]. **Reverse** [CCW18, QCF⁺16]. **Reversible** [DRSR14, DBG⁺14, DDR⁺16b, DJ08, HM14, LCSP14, Mog14, NV14, SMZ⁺19, SZSS10, SDSS14, SSP14, SWK⁺16, WDT14, CW08, LJ14, PSM⁺06, TR10, TR13]. **Review** [JLL⁺17]. **RF** [BSS16]. **RF/Analog** [BSS16]. **RIMEP2** [HM14]. **ring** [ZFT13]. **Ripple** [MGZ⁺17]. **Ripple-Carry** [MGZ⁺17]. **RMDDS** [LJ14]. **RNNFast** [SBZT20]. **Robust** [BMB18, CQZK14, GRPT13, GJ17, MGK18, PPM⁺13, SAAR20, CB09, WVGP13]. **Robustness** [BS15]. **Root** [MCT18]. **Router** [Bis17, DRL⁺19, KPFM16, CA11]. **Routing** [VRBS16, DDP20, HRR19, LKC15, LDL10, MKW⁺14, RHB⁺20, VOB19,

WWG⁺¹⁹, RT07, XC08]. **RRAM** [NHL⁺¹⁷]. **Rule** [OBLD14]. **Rule-Based** [OBLD14]. **runtime** [GMM12].

Sampling [QGW20]. **Scalable** [BPS19, Che15, GB18, MT14]. **Scale** [KCD15, KWWI17, PDL15, Bea11, CCTP08, LDL10, PDL07]. **scaled** [LBGR08].

Scaling [BSS16, JOF⁺¹⁵, LYWW13, WCSA10].

Scan [WFCX09, HCTK08, XS14].

Scan-chain [WFCX09]. **Scheduling** [BM15, MSCS19, OGB18, SM19, STA⁺¹², ZJT⁺¹⁴].

Scheme [CHA20, GLMG⁺¹⁵, GB18, MGK18, WRWW17, XS14]. **schemes** [GD12]. **SCKVdd** [Che15]. **Scoring** [AAF13]. **SCT** [RT08]. **Searches** [MT14].

Secret [BBB⁺¹⁶]. **Section** [SCLW19b, Bah09, LC08, Moh12]. **Secure** [SK16]. **Security** [BSY⁺¹⁶, GSC17, IGR⁺¹⁶, PRV⁺²⁰, WYZ⁺²⁰]. **Segment** [KXY16]. **Segment-Based** [KXY16].

Seizure [SGR⁺¹²]. **Self** [Che15, DLL⁺¹⁹, LCK19, MGK18, RMG15, TMM⁺⁰⁷, YYBK19, LDL10, PDL07, WCSA10].

Self-aware [DLL⁺¹⁹]. **Self-learnable** [YYBK19]. **Self-Organizing** [RMG15, LDL10, PDL07]. **Self-Protecting** [LCK19]. **Self-Reference** [MGK18].

Self-replicating [TMM⁺⁰⁷].

Self-Stabilized [Che15]. **self-timed** [WCSA10]. **Semi** [ZK18]. **Semi-Trained** [ZK18]. **Sense** [SFD17]. **Sensing** [MGK18].

Sensitive [ZY18]. **Sensitivity** [LDK⁺¹⁸, WDG⁺²⁰]. **Sensitivity-based** [LDK⁺¹⁸]. **Sensor** [LPB⁺¹⁵, LWM⁺¹⁴, MGS⁺¹², GD12, LWX⁺¹⁴, WOW⁺¹⁰].

Sensors [GGT⁺²⁰]. **Separable** [HYA⁺²⁰].

Separation [KR18]. **Sequence** [PPM⁺¹³].

Sequences [MT14]. **Sequential** [NLL⁺¹⁷, CW08, TR10]. **SerDes** [XLL⁺¹⁸].

serial [Gla14]. **Series** [MKS17]. **server** [MNT14]. **servers** [ABS⁺¹², KSB⁺⁰⁸].

Setup [GB18]. **Share** [BS20]. **Shared** [PAB⁺¹⁷, VK18]. **Sharing** [CDP17, SSP14].

SHARP [VK18]. **Shielding** [ZCX⁺¹⁷].

Shift [VSRR15, TCSV09]. **Shift-Based** [VSRR15]. **shift-register-based** [TCSV09].

shifter [MP10]. **Short** [ZSPC19].

Short-Term [ZSPC19]. **Si** [HCTK08]. **Side** [PRV⁺²⁰]. **Side-Channel** [PRV⁺²⁰].

Signal [LPM⁺¹⁹]. **Silicon** [CDP17, TZS14, XNK18, BPH⁺¹¹].

Silicon-Photonic [CDP17]. **SIMD** [PDL07]. **Simple** [DDR^{+16b}]. **Simplified** [FYJ⁺¹⁷]. **simplifying** [PSM⁺⁰⁶].

Simulation [CJ14a, CJ15, FYJ⁺¹⁷, GHHW19, SWJ07, YLF⁺¹⁷, FGZ14].

Simulator [AVK16, VAK18, VSM19, HYWA09, LJ10].

Simulators [ZF15, KCC⁺¹⁴]. **Single** [VRBS16, CEW⁺¹³, CCH16, SXL⁺¹²].

Single-Electron [CEW⁺¹³, CCH16].

single-walled [SXL⁺¹²]. **Situ** [MS19, ZK18]. **sizing** [LSH14]. **Sketching** [AL17]. **Skew** [NPA⁺¹²]. **Skyrmion** [KWC⁺²⁰]. **Small** [MKW⁺¹⁴].

Small-World [MKW⁺¹⁴]. **Sneak** [WRWW17]. **Sneak-Path** [WRWW17].

SNN [KWG⁺²⁰]. **SoC** [GSC17, HLH⁺¹²].

soft [LWX⁺¹⁴, SKRX13]. **soft-error** [LWX⁺¹⁴]. **Software** [AMA⁺¹⁴, IGGR19, KKY⁺²⁰, WZL16, ZJT⁺¹⁴, CNPR14, MNT14].

Solution [BM15]. **Solutions** [LCK19, VGZ11, MN06, Moh12].

solver [KTW08]. **Sort** [GUP11]. **SOT** [PAF18].

SOT-MRAM [PAF18]. **Source** [Bis17, KR18]. **Space** [LDK⁺¹⁸, TJ13a, XLBB06, ZJS09a].

SPARCNNet [PJS17]. **Spare** [BKJ19].

Sparse [HIH18, HYA⁺²⁰, PJS17, RMG15].

Sparsification [PSL⁺¹⁹]. **Spatial** [KWFH12]. **Special** [BY12, DMYT15, DR11, Gui13, HN15, LZBW20, Moh12, MSW14, SCLW19b, SS15, SK16, SN11, TSB15, TSMCB17, TV17, ZLWB20, AD14, BC08, Bah09, CS07, Edi14, LC08, McK07,

PG12, PR13, WDT14, XCF08]. **specialized** [BC08]. **Specific** [DKK⁺15, FC18]. **Specification** [MMD⁺20, OBLD14]. **spectrally** [KTW08]. **Speech** [CKC⁺18]. **Speed** [BYHT18, LTKP16, PAB⁺17, XLL⁺18]. **Speedup** [KAKSP14]. **SPICE** [KCC⁺14]. **SPICE-compatible** [KCC⁺14]. **Spike** [AMF⁺15, LYL19, ZWL⁺15]. **Spike-Time-Dependent** [ZWL⁺15]. **Spike-Timing-Dependent** [AMF⁺15]. **Spike-timing-dependent-Plasticity** [LYL19]. **Spiking** [BVM⁺19, CThG15, HIH18, KCD15, LJL18, LYL19, SPR18, VOB19]. **Spin** [AKW⁺13, MS17, VSR15, WYZ⁺20, YLF⁺17, CSKM13, CWL⁺13, EWKNW07, MFA⁺13]. **Spin-based** [WYZ⁺20]. **Spin-Torque** [YLF⁺17]. **Spin-transfer** [AKW⁺13, CWL⁺13, MFA⁺13]. **spin-transfer-torque** [CSKM13]. **spin-wave** [EWKNW07]. **SpinNaker** [PCD⁺11]. **Spintronic** [IGR⁺16, SBT20]. **Spintronics** [KZW⁺15]. **Split** [CZW⁺19]. **Splitters** [DWK⁺16]. **Square** [MCT18]. **SRAM** [GJ17, RKM15]. **SRAMs** [RMW⁺17]. **SSS** [DLL⁺19]. **Stabilized** [Che15]. **stacked** [KWFH12, MHM⁺08, SKRX13, ZS08]. **stacked-Vdd** [ZS08]. **stacking** [KSB⁺08, MHM⁺08]. **Stage** [ZGSA15]. **Stand** [RFDT15]. **Stand-By** [RFDT15]. **Standard** [CMJ14, KCWL⁺16, MS17]. **state** [ABS⁺12]. **Static** [DLL⁺19]. **Static-dynamic** [DLL⁺19]. **Statistical** [LTKP16, YJ18]. **STDP** [SAAR20, SPR18]. **STDP-based** [SAAR20, SPR18]. **Step** [WRWW17]. **Stochastic** [ACH⁺17, AL17, LNL19, LQYL19, LP17, LMM18, MZR⁺14, MKSW17, MS19, MS20, NLL⁺17, NPH18, ZCDD19]. **stochastically** [GRS05]. **Stone** [BSL⁺18]. **Storage** [SCZ⁺12, VSR15, YYPK17]. **strain** [LWH14]. **Strategies** [SFD17, FRB08, GRS05]. **Strategy** [MSCS19]. **Streaming** [GYM⁺17, KR18, QGW20]. **Streams** [GGTG⁺20]. **stretching** [MRH12]. **Structure** [DDR⁺16b, YYPK17]. **Structured** [AHS17, LH20]. **structures** [PSM⁺06]. **STT** [AKW⁺13, LPW18, NLW⁺20, PFRR17, SFD17, VDB⁺16, ZCX⁺17]. **STT-MRAM** [AKW⁺13]. **STT-MRAM-based** [NLW⁺20]. **STT-RAM** [LPW18]. **STTRAM** [GG17, MGK18, WX15]. **STTRAM-Based** [GG17, WX15]. **studies** [CNPR14]. **Study** [DDR⁺16a, KWC⁺20, PPM⁺13, PSY⁺18, YLF⁺17, CB09, HCTK08]. **styles** [CJ14b]. **Sub** [GVRR17, ON15, RFDT15, WOW⁺10]. **Sub-** [RFDT15]. **Sub-10nm** [GVRR17]. **Sub-Block** [ON15]. **sub-mW** [WOW⁺10]. **Subcrossbar** [YL14]. **Substrate** [PAB⁺17]. **Success** [NPS⁺20]. **Suite** [XCS⁺19]. **Super** [GVRR17]. **Super-Threshold** [GVRR17]. **Supercapacitor** [LPB⁺15]. **Supercapacitor-Based** [LPB⁺15]. **Supervised** [CZQK15, LYL19]. **Supply** [LWM⁺14, MLP⁺20, MMJ09]. **Support** [CTT⁺20, KMS⁺20]. **Surface** [CMJ14, KTW08]. **Survey** [BVM⁺19, GBLD15, KK12, Mit16, Mit17, QCF⁺16, SFD17, CNPR14]. **sustainability** [KMD12]. **sustainable** [PG12]. **SW** [JRLR15]. **SWIFTNoC** [CDP17]. **Swing** [SSF⁺15]. **Switched** [GB18]. **Switching** [BSL⁺18]. **Symmetric** [DDR⁺16b]. **Symposium** [Shu09]. **Synapses** [WKL16, JRC⁺13]. **Synaptic** [BOAC⁺20, KZL15, WKL16]. **Synchronous** [RFDT15]. **Synthesis** [AHSZ16, CEW⁺13, CH14, CCH16, CW08, DRSR14, DWK⁺16, DDR⁺16b, GCJ17, HSZM17, HD14, LCSP14, MPM13, PT14a, SMZ⁺19, SSP14, SKB13, CCTP08, DJ08, LJ14, MMJ09, PT14b, SZSS10, SC08, XC08, ZXC10]. **Synthetic** [Dea14, FHFk14, HD14, MHW14, MSW14,

OBLD14, VMV13]. **System** [ARLB18, BY18, CJ15, DLL⁺19, HH11, JWJ⁺17, LBJ⁺16, LWM⁺14, MKSW17, QCF⁺16, SS15, SN11, SCZ⁺12, TZR20, TSMCB17, WXW⁺17, CB09, MP10, YW13, ZJS09c, ZJS09b, PCD⁺11, YXW⁺12]. **System-Level** [ARLB18, JWJ⁺17, MP10]. **System-on-chip** [DLL⁺19, PCD⁺11, YXW⁺12]. **Systems** [ACJ17, DMYT15, DRL⁺19, FYJ⁺17, GBLD15, HIH18, IASK20, KZW⁺15, MSCS19, RMW⁺17, SAAR20, TWLL19, TSB15, TKBM12, TV17, WZL16, XNK18, ZSXY11, GMM12, LBGR08, LWX⁺14, Moh12, MCT10, PG12, STA⁺12, SLS⁺14, WOW⁺10, WCSA10]. **systems-on-chip** [GMM12, LWX⁺14].

T [MCT18]. **T-count** [MCT18]. **Targeting** [CKC⁺18, HSZM17]. **tasks** [STA⁺12]. **Taxonomy** [SFD17]. **Technique** [CCW18, Che15, HRR19, HLH⁺12]. **Techniques** [Bis17, GBLD15, KPFM16, Mit16, Mit17, TJ13b, WYZ⁺20, BCT⁺13, KP10]. **Technologies** [DLTSNA20, FNO⁺19, GBLD15, TSB15, BC08, Edi14, PR13, PUBV07, VO06, GN08]. **Technology** [BSY⁺16, CTP14, GMM12, GVRR17, KZW⁺15, TGCJ16, KSB⁺08, MHM⁺08, SX11, XDX14, ZC07]. **Technology-Agnostic** [CTP14]. **Technology-Based** [BSY⁺16]. **Technology-driven** [GMM12]. **Temperature** [HTMH18, PRG⁺15, KCC⁺14, LWH14]. **Template** [RDH14]. **Templates** [SM11]. **temporal** [KWFH12]. **Term** [ZSPC19]. **Ternary** [GG17]. **Test** [MSCS19, TJ13b, XS14]. **Testability** [DDR⁺16b]. **Testable** [SDSS14, XDX14, LBGR08]. **Testing** [BMB18, KKC17, DJRM09, RT08, XS14, ZJT⁺14]. **TFET** [DLTSNA20, KCWL⁺16]. **TFT** [HCTK08, LWH14]. **TFTs** [LBGR08]. **theoretic** [DWL10]. **Theory** [RBGC14]. **Thermal** [ARLB18, DJH⁺19, MSCS19, TJ13b, ZY18, KWFH12, XS14]. **Thermal-aware** [MSCS19]. **thermal-driven** [XS14]. **Thermal-reliability-aware** [DJH⁺19]. **Thermal-Sensitive** [ZY18]. **Thread** [LML⁺19]. **Threats** [GSC17]. **three** [MLK⁺08, WFCX09, XS14]. **three-dimensional** [MLK⁺08, WFCX09, XS14]. **Threshold** [GVRR17, Mit16, PT14a, SCL17, MMJ09, PT12, PT14b, WDH⁺09]. **Through-Silicon-Via** [TZS14]. **throughput** [CA11, RMBC12]. **Tile** [HMS⁺05, WWG⁺19]. **Tile-based** [HMS⁺05, WWG⁺19]. **Tiled** [DPB11]. **Time** [DRL⁺19, GSC17, JWJ⁺17, KR18, KPFM16, LMM18, MKSW17, SHAC19, TWLL19, XLL⁺18, ZWL⁺15, LWX⁺14, MNT14, SM19, SPR18]. **Time-Randomized** [SHAC19]. **timed** [WCSA10]. **Timing** [AMF⁺15, LYL19]. **TLC** [AM18]. **TODAES** [BC08]. **Tolerance** [SLC⁺17, WDW13, DWL10, LSH14, SCI⁺09, Tah06, Tah09, XC08]. **Tolerant** [BKJ19, CVK15, DJ16, GYM⁺17, HH11, LCK19, MGZ⁺17, XYM18, LWX⁺14, PDL07, TWL09, YYC07, ZMT13]. **Tool** [VRBS16, HZY⁺12]. **Torque** [YLF⁺17, AKW⁺13, CSKM13, CWL⁺13, MFA⁺13]. **Torus** [YXW⁺12]. **Torus-Based** [YXW⁺12]. **Tracking** [ZPL⁺20]. **trade** [CDG⁺12]. **trade-offs** [CDG⁺12]. **Tradeoffs** [HTMH18, SFD17]. **Trading** [ACH⁺17]. **Traditional** [KMS⁺20]. **Trained** [WL19, ZK18]. **Training** [LDP⁺20, MS19]. **Transfer** [CZW⁺19, AKW⁺13, CSKM13, CWL⁺13, MFA⁺13]. **Transfer-Level** [CZW⁺19]. **Transform** [DBG⁺14]. **Transformations** [GOGCK11, BCT⁺13]. **transient** [ZFT13]. **Transiently** [JRLR15]. **Transistor**

[CEW⁺¹³, CCH16, GLMG⁺¹⁵, HC15, RMW⁺¹⁷, DLWW08, HZY⁺¹²].

Transistors [HN12, MGZ⁺¹⁷, WDH⁺⁰⁹].

Transporters [KMS⁺²⁰]. **Transporters** [PPM⁺¹³]. **Tree** [CH14, GCJ17, YYC07].

Trends [LZBW20, TGCJ16, ZLWB20].

Trojan [CKWK18]. **Trojans** [ZFT13]. **True** [LTKP16]. **Trust** [IGR⁺¹⁶]. **Trustworthy** [SK16].

TSV [AGD⁺²⁰, KYEB15]. **TSVs** [ARLB18].

Tunable [GKT⁺¹⁸]. **Tunnel** [VDB⁺¹⁶].

tunneling [LM13]. **Two** [GUP11].

Two-Dimensional [GUP11].

Type [YJ18].

ULS [MP10]. **Ultra**

[CJ16, CJ14b, GGTG⁺²⁰, GJ17, KZW⁺¹⁵, KT14, MGS⁺¹², STSG17, TSB15].

Ultra-Low [TSB15]. **Ultra-Low-Leakage**

[CJ16, CJ14b, GJ17]. **Ultra-Low-Power**

[KZW⁺¹⁵, MGS⁺¹², STSG17, GGTG⁺²⁰].

Unclonable [UMB⁺¹⁸]. **Underlapped**

[GVERR17]. **Unified** [YYPK17]. **Uniform**

[SMT⁺¹⁷]. **Unipolar** [LP17]. **Units**

[BH17, Gla14]. **Universal**

[CZQK15, CVK15, MP10]. **Unsupervised**

[LYL19, SPR18]. **Use** [KMS⁺²⁰]. **Using**

[AVK16, CHA20, CJ16, CKWK18, DSB16,

DPB11, DLL⁺¹⁹, GKT⁺¹⁸, GOGCK11,

GGTG⁺²⁰, GUP11, GSC17, GJ17, HZSA14,

HLH⁺¹², KR18, KWWI17, LBJ⁺¹⁶,

LQYL19, LP17, LMM18, Mit17, NPS⁺²⁰,

PFRR17, PT14a, PAF18, SCL17, SBZT20,

TZR20, TNWD20, VSRR15, YJ18, ZCDD19,

BSL⁺¹⁸, BPH⁺¹¹, CMJ14, DRSR14,

HMS⁺⁰⁵, JRC⁺¹³, KT14, KK12, KCD15,

LBGR08, LSH14, MMJ09, MHM⁺⁰⁸,

RBGC14, SZSS10, SPR18, SXL⁺¹², SC06,

YYC07, ZFT13, ZJT⁺¹⁴, KSB⁺⁰⁸]. **Utility**

[LHW⁺¹⁷]. **Utilizing** [WDH⁺⁰⁹].

Validation [SSN12]. **Variability**

[GPW⁺¹⁵, NLK⁺¹³, VDB⁺¹⁶]. **Variable**

[DKK⁺¹⁵]. **Variable-Latency** [DKK⁺¹⁵].

Variation [GLMG⁺¹⁵, MGK18, XYM18,

MRH12, ZMT13]. **Variation-Aware**

[GLMG⁺¹⁵]. **variation/defect** [ZMT13].

variation/defect-tolerant [ZMT13].

Variations

[CMJ14, CJ14a, CJ15, DSB16, KAKSP14,

SCL17, TGCJ16, YJ18, RYT⁺⁰⁷, XPD12].

Vdd [ZS08]. **Versus** [DDR^{+16a}, AGD⁺²⁰].

Vertical [KCWL⁺¹⁶, LKC15]. **Via**

[TZS14, WWJ09, YWF18]. **vibration**

[WCSA10]. **Video** [QGW20]. **Viewpoint**

[GFZ13]. **virtual** [Sek07]. **virtualized**

[MNT14]. **VLIW** [SLC⁺¹⁷]. **VLSI**

[AMF⁺¹⁵, DKK⁺¹⁵, MRH12, YP17].

Volatile [KHR⁺¹⁵, RKM15, STSG17,

YYPK17, YXD⁺¹⁷, ZPL⁺²⁰]. **Voltage**

[Che15, JOF⁺¹⁵, KKKK18, SCL17, SXL⁺¹²].

voltages [MMJ09, WDH⁺⁰⁹]. **vs**

[CJ14a, DWK⁺¹⁶, KWC⁺²⁰]. **vulnerability**

[SKRX13].

Wafer [KKC17, KWWI17, MHM⁺⁰⁸].

Wafer-Bonding [KKC17]. **wafer-to-wafer**

[MHM⁺⁰⁸]. **Wall**

[KWC⁺²⁰, Mit17, SBZT20]. **walled**

[SXL⁺¹²]. **Wave** [MKW⁺¹⁴, EWKNW07].

Wavelength [LKL⁺¹⁸]. **waves** [KK12].

Way [BS20, HSZM17]. **Wear** [LHHZ19].

Wear-aware [LHHZ19]. **Web** [AMVG12].

Welded [GCJ17]. **while** [RYT⁺⁰⁷]. **Width**

[BSS16]. **wire** [Gla14, SXL⁺¹²]. **Wireless**

[ACM⁺²⁰, CMM⁺¹⁸, DJ16, LPB⁺¹⁵,

LWM⁺¹⁴, MGS⁺¹², MKW⁺¹⁴, TKBM12,

CDG⁺¹², GD12, WOW⁺¹⁰, WVG13].

wires [DK09]. **wise** [HYA⁺²⁰]. **Within**

[KXY16]. **Wordline** [LYWW13].

Wordline/Bitline [LYWW13]. **Workload**

[PRG⁺¹⁵, SLS⁺¹⁴]. **Workload-Aware**

[PRG⁺¹⁵]. **World** [MKW⁺¹⁴]. **Wormhole**

[SHAC19]. **WoSAR** [AD14]. **Write**

[AM18, GLMG⁺¹⁵, KXY16, LHW⁺¹⁷,

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Garg:2012:TDL

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Guiducci:2008:HPP

Ghofrani:2015:LPV

Galceran-Oms:2011:MTU

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Wang:2020:CDF

Wang:2013:HRD

Wang:2009:UQD

Wu:2009:SCD

Wang:2016:NPM

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