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**Title word cross-reference**

2 [BSL17]. 3 [CAY+18, CWMC16, LGP+16, NRQ16b, SZJK18, ZSLX13]. 3 [CCZ13, DDT+17]. Z [SLM12].  
-D [CAY+18]. -polytopes [SLM12].  
/channel [LCL+14].  
000-core [DAKK19].  
2014 [Aca16, Ano15].  
4.0 [KHB+20].  
6 [KWM+08]. 64-bit [BWLR06, VED07].  
7 [BKM+17]. 754 [LDG+13].  
ZLYZ16, ZCQ+19, BBG13, BWLR06, BTS10, CG14, CK11, CDM13, KCP13, LKL+13, OGK+12, RCV+12, SKS11, SD12, SB09, TC07, TDG13, VE13, YXK+12.

Area [LAS+13, SB09]. area-efficient [SB09]. ARI [FQRG13]. Arithmetic [LVR+15, BWG+12]. ARM [GDL16, LHW+19, SHY14, SPH+17].


Asymmetric [CG14, CCG13, PCT12, SW13].

Asymmetry [LHW+19]. Attack [LFK19].

Attacks [BCHC19, ERAG+16, PHBC17, ZHS+19, BVIB12, CCD12, DJL+12].


Automatically [VZT+20]. Automotive [FWJ+16].

Autotuning [AMP+16, SYE19, YAG+16, KBR+13, LFC13]. Avionics [DPB1+19].

AVPP [OAM19]. Aware [ACA+19, DTT14, CG15a, DDM16, DHD+14, GVT+17, KEFG18, LHY16, LRGB15, PVA+17, PG17, RSK+18, SEF+19, SLJ+18, SHK16, SIZJK18, SKPD19, USCM16, WLZ+13, WJC17, ZCQ+19, ZWY17, CG14, CLA+19, CWCS13, EE09, GGFPRG12, NB13, SSS+04, SAI19, SEP07, WYJL10, WSC+13, WDXJ14, ZYC10, ZDC+12, ZK06].

Awareness [HLSW17, LKL+13].


Bandwidth [LGP+16, LDMZ19, ZCCD16, ZCQ+19, DZC+13, WYJL10, XCC+13].

Bandwidth-Asymmetric [ZCQ+19].

Bank [JFK20, LCL+14].

bank-channel-level [LCL+14].

banked [AG1+12]. Banks [ZCF18].

Based [AJE+16, CNS+16b, CG15a, CG15b, DSR15, DAD16, DAP+15, DFD+14, GAM12, HYYAM16, JPS17, KS16, LCS+19, LTX16, LY16, MNC+16, MTK18, NC15, SBS16, WGO15, WDX15, WCI+16, WWC+16, WMGS19, XHJY16, XFS+19, YHYBAM20, ZX19, ZLC+15, ZSM+16, AvRF07, BCVT13, CPP08, CW13, GK13, HLR+13, HAJ+12, HW14, HWX+13, JYJ+13, JFK20, JML+20, KBR+13, LBO14, LGJ12, LCL+14, LHWB12, PLK+19, RLS13, SSO4, SKKB18, TKJ13, WSC+13, WFO14, ZHD+04, ZGC+12, ZFT+18].

Bayesian [AMP+16].behavior [AFD07, LS10]. Benchmark [ABB+16, AYL+18, CCM+16, DDT+17, DS16, BE13].

Benchmarking [DAP+15, XZC+20].
benchmarks [JEJ08]. Benefits [LWWH12]. Benzene [KAC+18].

BestSF [BJW18]. better [TBC+12]. Between [EPS17].

Beyond [FER+13]. Bias [Lee16].

Big [ZLYW18, ZLC+15].

Big-Memory [ZLC+15].

Bimodal [TD16].

Binary [DGGL16, GDL16, HWW+19, LHW+19, RCK+20, SHY14, CDM13, GHS12, HS06, HLC10, LWH11, PKC12].

bipartite [BZS13].

Bit [TBS06, BWLR06, VED07].

Bit-split [TBS06]. BitSAD [DZS12].

Bitstream [DZS12].

bitwidth-aware [NB13]. Blaze [PWPD19].

Blaze-Tasks [PWPD19].

Block [GFD+14, KTA16, LLRC17, LTX16].
MPPS18, TZK18, ZK06. **Block-aware** [ZK06]. **Blocks** [HWJ+15, SYX+15].

**Boosting** [ASV+16, KH18, RLS13, B13]. **Bottlenecks** [MMdS06]. **Bound** [CL+19, MBK12]. **Bounded** [HS06].

**Bouding** [XMM04]. **Bouds** [ESR+15, BWL06]. **BPM** [LCL+14].

**BPM/BPM** [LCL+14]. **Brain** [vdVSAAS20]. **Brain-Simulation** [vdVSAAS20]. **Branch** [EPAG16, LWL18, Mic18, CZ07, HW+11, Jim09, JSM+04, LB05, MG12, TS05].

**branch-predictor** [JSM+04]. **Branches** [DGG16]. **Breakdown** [HYYAM16]. **bridging** [HCC+14]. **Bringing** [DDT+17].

**buddy** [KWCL09, ZJ15]. **Budget** [LWF+16]. **buffer** [LB05, RB13].

**Buffering** [YMM+15, GPL+05]. **Bugs** [AA+16]. **Build** [SSH+13]. **Building** [KRHK16, SGS+20, WDX15].

**Buri** [ZLC+15].

**C** [CWW+16, NC15, NED+13, ZZZ+19]. **C-to-CUDA** [NC15]. **C/C** [NED+13].

**C1C** [LZL+13]. **CACF** [ZFT+18]. **Cache** [CKPH19, CAGS17, DAD16, GFD+14].

**HK14, HMVY15, KR19, KAC+18, KAC15, LLRC17, LW+19, Mic16, PLK+19, SSW16, SBS16, SKH+16, SLJ+19, VPTS19, WJX17, YDL+17, ZWY17, ZWL+19, APG13, AGV005, AGI+12, AFDO7, BWL13, CA11, CWS06, DLJ+12, FTLG11, GGPGR12, GSZl0, HAJ+12, KS11, KWC10, LCC11, LZZ+13, MMdS06, RDF13, SS04, SBC05, SSH+13, TKJ13, VSP+12, WSC+13, WDX14, ZHD+04, ZVYN05, Zha08, NTG13]. **cache-coherence** [MMdS06]. **cache-coherent** [APG13]. **cache-content-duplication** [KS11].

**Caches** [CAGS17, CPS+15, GBD+15, JPS17, SBS16, WDX14, AIVL13, DLJ+12, HS06, HL07, KS11, KWCL09, LJMG12, MSK05, SSK11, SSC+13, VSP+12, WDX14, WLZ+10, WM11, ZDC+12].

**Caching** [DNT16, SYX+15, DZC+13, JOA+09a, WFKL10]. **CACTI** [KBM+17]. **Caffe** [RSK+18]. **CAFFEINE** [PB15]. **CAIRO** [HNNK17]. **Caliper** [KLA+19]. **Call** [Lee16, MG12]. **Capability** [AHA+19, DGI+14]. **Capacity** [GBD+15, SSK11, WM11].

**Capturing** [XDXL19]. **CART** [CDDP13, CDPD13]. **Case** [KH18, MMS15, SKEG16, SSRS15, AFD12, RPS06, WK09, LB10]. **CATCH** [KS11]. **Caused** [SYX+15]. **CAVA** [CST+06]. **CC** [CCZ+13]. **Cell** [YMM+15, SLTM12]. **cells** [JSM+04].

**Center** [FXC+15]. **centers** [AVG12]. **Centric** [JL1+18a, SJL+20]. **CERE** [DAP+15]. **CG** [MAD17]. **CG-OoO** [MAD17]. **CGRA** [HAC13]. **chains** [SSH+13]. **Chameleon** [WFKL10]. **Change** [HASA+16, JDX+13, YM+15, ZDC+12].

**Channel** [BCHC19, BVBI12, DJL+12, JFVK0, LFK19]. **channel-level** [LCL+14]. **Channels** [DJC16, EPAG16]. **chaotic** [LTG12].

**Characterization** [CVB15, HKA+19, DS12, FER+13, VW11]. **Characterizing** [BCM11]. **Checking** [KK15, BWL06, MG13]. **Checkpoint** [GW00, ARS04, CST+06]. **checkpoint-assisted** [CST+06].

**Checkpointing** [AEE+19, WZZ+19, DXML1]. **Chip** [BKM+17, CPS+15, CEP+16, DJC16, EPS18, LB13, VFW16, APG13, BKA13, CK11, EE11, GSZ10, JPS17, LWL12, LT13, NKL12, LAS+08, LM05, LPZI12, LMM08, SH19, SMK10, TDG13, CXC+13]. **Chips** [LCS+19, ZMN15]. **choices** [VE13].

**Chunking** [MG20]. **Circuit** [ZFT+18, DJX13]. **circuit-architecture** [DJX13]. **Circuits** [KKW+15].

**Circuit/Cores** [KKW+15]. **Citadel**
Conventional PVS conceived [AAP13, PCM16]. Conditional [Mic18].


Correct-by-Construction [DPBI19]. Correcting [SPM17, TZK18].


coscheduling [PGB13]. Cost [LGP16, SSW16, SKPD19, YEI14, AGI12, DC07, FBHN04, MA08]. COTS [RGG12]. Could [SW17a, ZPR17].

Counter [WCI16]. Counter-Based [WCI16]. Counters [NDP17, RLS13].

counting [PBM10]. coupled [PCT12].

covering [PJM13]. Covert [EPAG16]. CPU [BSSS14, LMVC13, PGB16, WLWB19].

CPUs [BHC16]. Critical [EAH16, RGG12]. Criticality [FWJ16].

CRNS [AS13]. Cross [ERAG16, LGAZ07, LVR15, OTR18, SWF16, WAST16, ZLYZ16].


cryptography [AS13]. CTA [LDMZ19]. CUDA [KBR13, NC15, VJC13, WG17].

cycle [DEE13, RLS13].

[DAKK19]. Computing [DZSL20, DSH18, KHS14, LCS19, Lou19, ME17, PWPD19, SW17b, TCS16, XZC19, ZLYW18, ZLC15, AVG12, LM05].


conscious [LZY09]. Conserving [LYYB07]. Considerations [HMYZ15, MTK18, LM05]. considering [AVG12, HP04]. Consistency [NZ15].

constrained [MSF07, NMKS06, ZK05]. Constraints [AEJE16, KCA13, WYLJ10].

Construction [DPBI19]. Consumption [FCD17, GFD14, LG12, LYYB07, VED07, ZHZ14]. Contech [RHC15].


Control-Flow [SMKH15]. Controlled [ASS17, RCV05]. controller [AGF12].


cooling-computing [AVG12].

Cooperation [TZK18]. Cooperative [DNT16, JPS17, JDZ13, LBM13, SLH14]

Coordinated [LDMZ19, ZDC16].

coprocessor [LDG13]. Corasick [CW13, PLL10]. Core [CHE14, CC18, FMY15, JLI18a, LBM13, PVS17, SPS17, SPH17, ZLYZ16, DAKK19, LNLK13, OGK12, PM12, ZGC12].

Cores [CAY18, DT17, HYYA16, JPS17, KKW15, MMS15, TDO16b, ZCF18, GB06, NTG13, PCT12, SW13, WYLJ10, WFKL10].

CoreUnveiling [APBR16]. Corner [DDT17]. Correct [DPBI19].

Correct-by-Construction [DPBI19]. Correcting [SPM17, TZK18].


coscheduling [PGB13]. Cost [LGP16, SSW16, SKPD19, YEI14, AGI12, DC07, FBHN04, MA08]. COTS [RGG12]. Could [SW17a, ZPR17].

Counter [WCI16]. Counter-Based [WCI16]. Counters [NDP17, RLS13].

counting [PBM10]. coupled [PCT12].

covering [PJM13]. Covert [EPAG16]. CPU [BSSS14, LMVC13, PGB16, WLWB19].

CPUs [BHC16]. Critical [EAH16, RGG12]. Criticality [FWJ16].

CRNS [AS13]. Cross [ERAG16, LGAZ07, LVR15, OTR18, SWF16, WAST16, ZLYZ16].


cryptography [AS13]. CTA [LDMZ19]. CUDA [KBR13, NC15, VJC13, WG17].

cycle [DEE13, RLS13].
Data-Driven
[ME15, ME17, ASH20], data-flow [PC13].

Data-Pair-Parallel [MGSH16, NHK16].

Data-Race-Free [MNSC16], Data-Rate
[EPS18], Data-Traversal [RMA14].

Database [BAZ19], Datacenters [ZFL18].

Deadlock [IPW14], Datasets [WLWB19].

DawnCC [MGA16], DCMI [KFJ20].

DDR4 [TKM14], DDRNoC [EPS18].

Def [MPS18], Dead-Block [MPS18].

Deadline [USCM16], Deadline-Aware
[USCM16], deadlock [BRSJG12],
deadlock-free [BRSJG12], debugging
[VDP09]. decay [JSM*04, SS04].

Declarative [CZGC20], decoders [Zha08].

Decoding [CAMJ15], Decompression
[LWS18], Decompression
[LMSE18], Decontaminating
[CFH*12].

Decoupled
[VPTS19, BZS13, DHC*13, RVOA08].

Decoupling [HAM17], Deep [ASK*16, JQJ18a, MWJ19, RSK*18, XDLX19].

Deeply [GKK17], DEFCAM [LCC11],
defect [LCC11], defect-tolerant [LCC11].

Defined [DMR*16, TGAG*12].

Defragmentation [PVS*17], DeFT
[VHKP11], Delta [DZC*13].

Delta-compressed [DZC*13], Demand
[BRJ15], Dense [CWW*16].

Dependence [BRJ15, DHD*14, JK17, SL09, TG07, VTN13], Dependence-Aware
[DHD*14], dependences [BCV13].

Dependability [WLZ13].

Dependency-Aware [WLZ13],
dependent [YKL10], Deployments
[vVSAA20], depth [HP04], Design
[CKP19, CPS*15, HIJW15, KWM*08, RTK15, SZJK18, SPF*17, SL09, VHKP11, WLZ*10, BE13, CPP08, IMS*08, LB10, LCC11, LHZ13, VE13, ZK05].

Designing
[BKA13, BSWLE13, MGS16].

CWC06, FER*13, FLG12, HLR*13, HL07, LWH11, LMDG12, PC13, RB13, RDF13, STLM12, TG07.

Data-Driven
[ME15, ME17, ASH20], data-flow [PC13].

Data-Pair-Parallel [MGSH16, NHK16].

Data-Race-Free [MNSC16], Data-Rate
[EPS18], Data-Traversal [RMA14].

Database [BAZ19], Datacenters [ZFL18].

Deadlock [IPW14], Datasets [WLWB19].

DawnCC [MGA16], DCMI [KFJ20].

DDR4 [TKM14], DDRNoC [EPS18].

Def [MPS18], Dead-Block [MPS18].

Deadline [USCM16], Deadline-Aware
[USCM16], deadlock [BRSJG12],
deadlock-free [BRSJG12], debugging
[VDP09]. decay [JSM*04, SS04].

Declarative [CZGC20], decoders [Zha08].

Decoding [CAMJ15], Decompression
[LWS18], Decompression
[LMSE18], Decontaminating
[CFH*12].

Decoupled
[VPTS19, BZS13, DHC*13, RVOA08].

Decoupling [HAM17], Deep [ASK*16, JQJ18a, MWJ19, RSK*18, XDLX19].

Deeply [GKK17], DEFCAM [LCC11],
defect [LCC11], defect-tolerant [LCC11].

Defined [DMR*16, TGAG*12].

Defragmentation [PVS*17], DeFT
[VHKP11], Delta [DZC*13].

Delta-compressed [DZC*13], Demand
[BRJ15], Dense [CWW*16].

Dependence [BRJ15, DHD*14, JK17, SL09, TG07, VTN13], Dependence-Aware
[DHD*14], dependences [BCV13].

Dependability [WLZ13].

Dependency-Aware [WLZ13],
dependent [YKL10], Deployments
[vVSAA20], depth [HP04], Design
[CKP19, CPS*15, HIJW15, KWM*08, RTK15, SZJK18, SPF*17, SL09, VHKP11, WLZ*10, BE13, CPP08, IMS*08, LB10, LCC11, LHZ13, VE13, ZK05].

Designing
[BKA13, BSWLE13, MGS16].

[FMY*15], Detecting
[DSR15, KS11].

Detection [BDB*20, CEP*16, LHC*17, MNSC16, WCI*16, YLD*14, LKL*13, TBS06, TDG13, VHKP11, WTD14].

Deterministic
[CCL*13, VSL16, VW11].

Detonation [CAV*18], Devectorization
[KMG14], Development
[VCJ*17], Device
[RLBBN15], Device-Level
[RLBBN15].

Devices [TKM14, NMKS06, ZK05], DFA
[BC13], Diagnosing
[JLJ*18b], diagnose
[BS07], DiagSim
[JLJ*18b].

Die-Stacked [CWM16], die-stacking
[ZSLX13], different
[YKL*12], dimension
[RTG*07], dimensional
[LT19], Direct
[LLRC17, YRGES*19], Direct-Mapped
[LLRC17]. Directed
[HYR*15, VZS*18, LFX09, NED*13, SEP07, WM10].

directives
[WX*12], Directories
[PT17]. Dirty
[LLRC17], Dirty-Block
[LLRC17], discard
[LWWH12]. Discovering
[YHYBAM20], Discrete
[ZSM*16].

DislRer
[HLC10], Disjoint
[SJA12], Disk
[LYK*15], disparate
[LMH10]. Dispatch
[LLRC17], dispatching
[LZ12].

Dissemination
[LS17]. Disparate
[LLR17], Disparitization
[WC17], Diverse
[LP17, SAL19].

Diversification
[CDM13], Diversity
[TH016b, KNK12], DJ
[DDU12].

DJ-graphs
[DDU12], DLP
[SNL*04].

DNN
[XZC17], DNN-Tune
[XZC17]. Do
[ZPR*17], Document
[HKA*19], Doesn’t
[LKV12], Domain
[CZGC20, GÁSA*16, GÁSA*13].

Domain-specific
[CZGC20]. Domains
[SW17a], DPCS
[GBD*15], DPM
[GRK13].

Dragonfly
[CVB15], DRAM
[CKPH19, CAGS17, HCC+14, JLCR13, LLRC17, LCL+14, OTR+18, TKM14, VPTS19, XHYJ16]. **DRAMCache** [PG17].

**DRAMs** [LSC+15]. **Drift** [SZJK18].

**Driven** [ME15, ME17, PB15, ZWS+16, ASH20, CDM13, FTLG11, SLP08, WFT014, XT09, ZCS06]. **Dropping** [GFD+14]. **DSL** [PBY+17]. **DSPs** [VCJ+17]. **Dual** [EPS18, WZG+19]. **Dual-Page** [WZG+19].

**DUCATI** [JED19]. **duplication** [KS11, LKL+13]. **DVFS** [EE11, GK13].

**Dynamic** [BHIC+16, DGGL16, DD16, DJB13, FER+13, FTLG11, FSYA09, GAM12, GDL16, GB+15, HWL+19, KE15, KPP+15, KMG14, KKAR16, LKL+13, Lee16, LPZ12, LTX+16, LH+19, MG19, MG20, RHC15, SV+05, SHT+15, WW+19, XHYJ16, ZYY+17, BBG13, DWDS13, GHS12, HS+06, HV+06, JSH+09, LWH11, LJM12, MG12, NED+13, WSC+13, XMM+04, ZZZ+05].

**Dynamically** [LZ12, PGB12, KSL11].

**eager** [JLCR13]. **early** [JOA+09b, SLP08].

**Easy** [TDG13]. **ECC** [CWMC16]. **ECCs** [ZW+19]. **ECS** [SPM17]. **Editorial** [CT08]. **EECache** [CS+15]. **Effective** [GMGZP14, HV+06, KH+18, PGB16, SSW+16, SPS17, KHW+05, LWH11, RPS06, SBC05].

**Effectiveness** [JRK16]. **Effects** [DRHK15, MGI15, CK11]. **Efficiency** [AJK+12, CAMJ15, CSK19, HLS+17, LME+18, LAM+15, OTR+18, OAM19, TCS16, ZJJ+15, BSWE13, CWS06, RCG+10a, SXL13]. **Efficient** [AYC16, AEE+19, BC+13, CC+13, CPS+15, DD+12, DD+16, GSA+16, GNB08, HAM19, HAC13, HEM17, IMS+08, KR19, KAC+18, KH18, KMG14, LWH11, LWS+19, LDC15, MCB+12, MG19, MKKE15, MAD17, NMK+06, PS15, SN17, TDP+15, TTS19, WZG+19, YM+15, ZPC+06, ZHS+19, ZLJ+8, ZZQ+05, APG13, ARS+04, CW+13, CWCS13, DCP+12, GW08, JSL13, JOA+09a, KHW+05, LZY+09, LMJ13a, LHZ13, Nas+13, PL+10, RFD13, SPP+06, SHC13, SB+09, TGD13, XCC+13, ZGC+12, FSYA09, SLA+07]. **Efficiently** [NRQ16a, PCT12, RHC15, ZWL+19].

**EFGR** [TKM14]. **Elastic** [Per18]. **Element** [LVR+15]. **elementary** [LDG+13].

**Eliminating** [RCG+10b]. **elimination** [JLJR12, VED07]. **Embedded** [GTT+16, GKCE17, KE15, KTA+16, CPP08, CDM13, GHS12, MP13, SHC13, SD12, XT09]. **embedding** [KKM+13]. **emergencies** [RCG+10b]. **emerging** [DXMJ11, XCC+13]. **empirical** [AvRF07]. **Emulation** [NZ15, TTKM15]. **Emulators** [HHC+16, TkKM15]. **Enabling** [BGG+15, CC18, HNK+17, KHN+18, SKE1G16].

**Encoding** [TDP15, ZXX19]. **End** [ZJJ+15].

**Endurance** [WDXJ14]. **Endurance-aware** [WDXJ14]. **Energy** [AJK+12, AYC16, ASP+17, CPS+15, DH16, GKE17, GFD+14, HMY+15, JOA+09a, KAC+18, LME+18, LSC+15, LMA+16, MCB+12, MTK18, MKKE15, MAD17, MPW+17, OTR+18, PM17, RTK15, SW+17b, SN17, SB+09, TCS16, TTS19, ZJJ+15, ZFT+18, ZCF18, AVG12, BSWLE13, CWS06, CWCS13, FBS13, GWS13, GPK14, LG+09, LZY+09, LHZ+13b, SPGE06, SHC13, TGD13, ZHD+04, ZVYN05, ZGC+12, SXL13].

**Energy-** [SB09]. **Energy-Efficient** [AYC16, CPS+15, KAC+18, MKKE15, MAD17, SN17, TTS19, JOA+09a, CWCS13, LZY+09, LHZ+13, SPGE06, SHC13, TGD13, ZGC+12].

**Energy-Optimal** [SW17b]. **Energy-Performance** [MTK18, ZCF18].

**Energy-Proportional** [DH16].

**Enforcement** [AHA+19, GWM07]. **Engine** [HKA+19, LP17, PB15, RMA+14, WLF+13, CW13]. **Engines** [MGI15, TBS06].

**Enhance** [GM12]. **Enhanced** [TKM14]. **enumeration** [SWH09]. **Envelope** [RWFJ19]. **Environment** [KMG14].

**Environments**
[KLA+19, RGG+12, WWWL13]. **EOLE**
[EPS17]. **Era** [GBD+15, LNLK13, PCT12].
**Error** [BDB+20, DGI+14, CWMC16, DSH+18, LSC+15, SPM17, TZK18, YEI+14, CCZ13, LKL+13]. **Error-Correcting**
[SPM17]. **Error-Tolerant** [DSH+18].
**Errors** [FWJ+16, ZWS+16]. **essence**
[JEBJ08]. **Estimation**
[WAST16, XHJY17, LTG12]. **Estimations**
[Lou19]. **Estimator** [KLA+19]. **Evaluate**
[TD016a]. **Evaluating** [CCM+16, CWS06, HWH+11, SSK11, SAT20, SW17a].
**Evaluation**
[BC13, CHE+14, FWJ+16, AvRF07, KWT009, LCC11, LAS+08, RGG+12, ZK05].
**Evaluator** [JSL13]. **Evaluator-executor**
[ML19]. **Evaluate**
[VGX16]. **Examining** [ZWS+16]. **exasescale**
[DXM11]. **ExaStencils** [KL19]. exception
[HWM14]. **Exceptionization** [YKM17].
**Exclusivity** [YDL+17]. **Execution**
[AS17, CC18, DT17, GGYK19, GMGZP14, HAC13, HMK17, KS16, LDMZ19, MG19, ME15, MAD17, NZ15, PVA+17, PS15, SEF+19, SYE19, SGS+20, VSDL16, WLZ+13, ZX19, ZCCD16, ZLJ18, GB06, LZ12, LHZ13, SJA12, VTN13, XIC12, ZG05].
**Executions** [NPD17]. **executor** [JSL13].
**exhaustive** [KWT009]. **Existing** [YEI+14].
**Expanding** [YBSY19]. **Expansion**
[PM17, ZLC+15]. explicit [STLM12].
**Exploit** [AAI+16]. **Exploiting**
[AIVL13, ASK+16, HWJ+15, JF20, KGK10, LHW+19, MA08, NKH16, YEL+14, YZ08, YZL+10, ZX16, LYB07, PCT12, RLS13, SNL+04, JOA+09b]. **Exploration**
[BKM+17, KL19, MNC+16, CPP08, IMS+08, KWT009, VHDP11, WLZ+10].
**Explorations** [BGG+15]. **Exploring**
[CK11, JK13, JOA+09b, MBKM12, MSK05, SKP19, vdVSAAS20, BE13, DJX13].
**Exposing** [CSK19]. **Express** [DJC16].
**Expression** [BC13]. **Expressions**
[VZT+20, JSH09]. **Expressiveness** [PC13].
**Extendable** [CXW+12]. extended [SVJ08].
**Extending**
[DBH16, DSH+18, JED19, VCI+17].
**Extension** [ZC20, DCP+12]. **Extensions**
[KHS+14]. **Extractor** [DAP+15]. **Extreme**
[CAY+18, JLI+18a]. **Extreme-Scale**
[CAY+18, JLI+18a].
**Factorizations** [AP17]. **Facts** [Mic16].
**FailAmp** [BDB+20]. **Failures** [NRQ16a].
**Fair** [LMCV13]. **Fairness** [GWM07, ML16].
**Falcon** [CNS+16a]. false [BCVT13]. **Fast**
[BC13, CCPG13, KCP13, KHW+05, MKKE15, NRQ16b, NTG13, PRMH13, SZJK18, LMJ13a, SPGE06, TDG13].
**Fast-Drift-Aware** [SZJK18]. **Faster**
[PCM16]. **fat** [BRSJG12, PRMH13].
**fat-trees** [BRSJG12]. **Fault**
[CEP+16, PHBC17, RHLA14, RCV+05].
**faults** [BS00, SSC+13]. **FaultSim**
[NRQ16b]. **Feature** [TKM14, LBO14]. **Features**
[YHYBAM20]. **Federation**
[BTS10]. **Feedback**
[CDM13, NED+13, ZWS+16, WM10].
**Feedback-directed** [NED+13, WM10].
**Feedback-Driven** [ZWS+16, CDM13].
**Fence** [MNSC16]. **fetch**
[EE09, GWS13, JLER12, SRLPV04]. **FFT**
[GS12]. **File**
[TS15, VZS+18, YBSY19, GKP14, SJV08].
**Files** [YXW12]. **filter** [BSWLE13].
**Filtering** [ZCCD16]. **Financial** [ABB+16].
**Finding** [PJ13]. **Fine**
[AZG17, BSSS14, EE11, HYYAM16, MG19, MPW+17, TKM14, WM11, YEI+14, LT13].
**Fine-Grain** [AZG17, HYYAM16].
**Fine-Grained** [BSSS14, MG19, MPW+17, YEI+14, EE11, WM11, LT13]. **Finite**
[LVR+15, VW11]. **FinPar** [ABB+16]. **First**
[Lou19, OAM19]. **fixed** [CS13]. **fixed-point**
[CS13]. **FLARES** [DGI+14]. **Flash**
[DGI+14, SZJK18, ZWL+19]. **Flexible**
[CC13, ZC20, OAB12, SHC13, ZZQ+05].
**FlexSig** [OAB12]. **Flextended** [ZC20].
flight [SSH+13]. Floating
[ASS17, BWG+12, CS13, floating- [CS13].
Floating-Point [ASS17, BWG+12]. Flow
[BRJM15, CWW+16, DMR+16, GAM12,
HAC13, LY16, MTT+12, SMKH15, FSYA09,
JA14, KHL+13, MBKM12, Nas13, PC13,
TG07]. Flow-Based [LY16]. flow-sensitive
[Nas13]. FluidCheck [KS16]. fly
[VHKP11, WWY+12]. Focal [DSK19].
Focal-Plane [DSK19]. Format [BJWS18].
Formation [HWL+19, KTAE16, FSYA09].
Formulating [MAN+08]. Four [TDO16a].
FPGA
[CS13, CWW+16, CDPD13, MTK18].
FPGA-Based [MTK18].
FPGA-processor [CS13]. FPGAs
[FBWS13, GNBO8, KFJ20, PI12]. fractal
[JYJ+13]. fractal-based [JYJ+13].
Fraction [SPS17]. frame [GK13].
frame-based [GK13]. Framework
[ASS17, AMP+16, GTT+16, GSA+16,
KPC+15, LAS+13, LSC+15, PWPD19,
SYE19, SAL19, WMS19, ZLYZ16, ZFT+18,
ZLYW18, AS13, BCVN10, CS10, DJX13,
HEL+09, KKM+13, LCC11, LCH+04,
LFC13, LHWB12, PGB13, YXK+12]. Free
[MNSC16, YPT+16, BRSGJ12, GS12].
Frequency [BHC+16]. friendly [CRSP09].
Front [ZJJ+15]. Front-End [ZJJ+15]. FTL
[HWJ+15]. Full
[HHC+16, MMT+12, SWF16, TKKM15].
Full-System [SWF16]. Fully
[HWJ+15, BRSGJ12]. Function [SKPD19].
Functional
[GaSÁ+16, GÁSÁ+13, YCCY11].
Functions [SSRS15, HWX+13, LGD+13].
fundamental [VE13]. Fuse [NDP17].
Fused [VPTS19]. Fusing [VPTS19, WM10].
Future [GB06, MMS15, DXMJ11, LMJ13a].
gap [HCC+14]. Garbage [ASV+16].
Gating
[KMG14, ZCF18, WYCC11, YCCY11].
GEMM [SLJ+19]. General
[CAMJ15, SW17a, LHY+06].
General-Purpose [CAMJ15]. Generalized
[FDF+14, GGK18, SDH+15]. Generalizing
[Jim09]. generate [KBR+13]. Generating
[AZG17, RHC15]. Generation [BDD+20,
DSK19, HEMK17, GNB08, HLR+13,
JLER12, LBO14, LHY+06, VJC+13].
Generator [KL19, PAVB15]. Generic
[WMGS19]. GenMatcher [WMGS19].
Getting [MWJ19]. Global
[CCL+13, MPSS18, BZS13]. good [PJ13].
Governors [SW17b]. GP
[LRGB15, MYG15, MYKG16]. GP-GPUs
[LRGB15]. GP-SIMD [MYKG16].
GP-GPU
[BGG+15, HLSW17, MBKM12, YXK+12].
GP-GPUs [ZJJ+15]. GPU
[BJWS18, DS16, GGYK19, HLR+13, JED19,
JGSM15, JML+20, KHN+18, LHC+17,
LWS+19, LMZ18, LWL18, LDMZ19,
LAMMJ15, LFK19, LFC13, RB13, SEF+19,
SNX+19, TBC+12, VC16, VZT+20, VZS+18,
WGO15, ZSLX13, vdBAA020].
GPU-accelerated [JED19]. GPU-Based
[WGO15, JML+20]. GPUs [ASH20, ASS17,
CS19, DS16, DNT16, FBWS13, JAK17,
JFK20, KR19, LRGB15, NC15, SHLM14,
WYCC11, YBSY19, ZSM+16]. gradient
[HAJ+12]. gradient-based [HAJ+12].
Gradients [FWJ+16]. Grain
[AZG17, HYYAM16, LME18, MAD17].
Grained
[BSS14, MG19, MPW+17, TD16,
YEF+14, EE11, KCP13, LT13, WM11].
Granularity [DRHK15, NRQ16a, TKM14].
Graph
[CNS16a, KKD16, WYXX12,
ZLJ18, DS12, LFX09]. Graphics
[ASS17, FSAY09, ZSLX13]. Graphs
[BRJM15, Lee16, RHC15, VZT+20, VGX16,
BZS13, DDU12, MG13]. gshare [TS05].
Guarded [PS15]. Guided
[GT+16, HWW+19, YHYBAM20, CS13,
LZL+13, RCG+10b, SSU+13].

Hadoop [KHS+14]. Halide
Improving [AJK+12, CAGS17, CG15b, 
DHK18, HWJ+15, HLSW17, JK17, 
KLMP12, LGP+16, LMSE18, LYH16, 
LAAMJ15, OAM19, RJS18, YBSY19, 
ZFT+18, ZWHM05]. in-flight [SSH+13].

In-Memory [BAZ+19, WZG+19, ZLYW18].

In-Order [BEE15, MAD17, SPH+17, BB04].

inter-order/out-of-order [BB04]. in-place [GS12]. inclusive [AIVL13, TKJ13].

Increasing [TZK18]. independent [BVBI12]. indexing [TS05]. Indirect 
[DGGL16, HWH+11, MG12]. indirections [AFD07, AFD12]. Industrial [GHH15].

Infer [HJW15], inference [LB10].

Influence [ZWS+16]. Information [GAM12, KHL+13, MMT+12, SM19, SAT20, 
LMJ13a, VSP+12]. Informed [SYX+15].

Infrastructures [FCD+17]. Innovative 
[BBK+17]. inputs [BE13]. Insights [YHYBAM20]. Instruction 
[CSK18, HNKK17, SPGE06, SKPD19, 
ACGK04, AR13, BVBI12, CS10, CSV04, 
GWS13, HL07, KS11, SSR13, VS11, XL07, 
ZHD+04, ZK06]. Instruction-Level 
[HNKK17]. instructions

[MG12, RFD13, SBR13]. Instrumented 
[SGS+20]. Integer 
[AJE+16, SLM12, BWG+12]. Integrated 
[DJC16, LYK+15, PG17, SPH+17, VFF+17, 
YJTF13]. Integrating [WTFO14].

Integration [JDZ+13]. Integrity [KK15].

intelligent [TBC+12]. Intensity [LVR+15].

Intensive [RH1A4, ZK19, YLT04]. Inter

[LB13, TC07]. Inter-cluster [TC07].

Inter-Core [LB13]. Interaction 
[FBH04]. Interactions [EPS17].

Intercepting [SSR15].

Intercommunication [TMP16, MP13].

Interconnect [BBK+17]. interconnection 
[SMK10, SEP07]. Interconnects 
[DH16, YRGES+19, XCC+13]. interface 
[ZSLX13]. Interference [KLA+19].

interferences [LCL+14]. Interleaved 
[AMG16]. Interleaving [WWC+16].

Intermediate [JML+20, RJSA18].

Intermediate-oriented [JML+20].

Internal [HWJ+15]. Internet [AVG12].

trpreter [RY13], interprocedural 
[SV05], interval [SV05]. Intraprogram 
[XMM04]. Intrinsic [JRK16]. Introduction 
[CT04, CT05, CT06, CT07, SD12].

intrusion [TBS06], IOV [DCP+12], IP 
[WYJL0]. Irregular 
[LWS+09, RMA14, SN17, AFD12]. ISA 
[CG14, SHC13, VE13]. ISAs [PS15].

Isolation [LDC15, SSH19]. Issue 
[DD16, MMS15, BB04, CD13, GWS13, 
PI12, SD12]. ITAPE [SEF+19]. Iteration 
[WWC+16]. Iterative 
[CNS+16b, FJC+15, GGS+17, GGS+19, 
KJF20, SYE19, CFH+12].

Java [HWM14, KWM+08, LB05, VED07, 
WHV+13, YK17, YLW08]. JavaScript 
[MB15, NCH16, PCM16, PKPM19]. JIT 
[HWM14, JK13, NED+13]. job [EE12].

Joint [TS15, LGZ07]. jump [MG12]. just 
[KHL+13]. just-in-time [KHL+13].

Kernel [DSK19, LP17, LDMZ19, SNN+19].

Kernels [VZ+20]. kilo [CSVM04].

kilo-instruction [CSVM04].

L1 [HK14, LZL+13]. L2 
[AVG005, CST+06, SLP08, SBC05].

L2-miss-driven [SL08]. Lane [WWC+16].

Language [CNS16a]. Languages 
[DHD+14, YK17, NED+13]. LAPPs 
[KFEG18]. Large [NRQ16a, SKH+16, 
KWC+09, RCV+12, SMK10]. Large-Scale 
[SKH+16, RCV+12, SMK10]. Last 
[CP+15, LB13, PLK+19, WDX14, WJX17, 
AGI+12, AVI13, VSP+12, ZDC+12].

Last-Level [CP+15, LB13, WDX14, 
WJX17, PLK+19, AGI+12, AVI13, 
VSP+12, ZDC+12]. Latency 
[BAZ+19, HAM17, HK14, KCA+13, PM17, 
MP13, SW13, WYJL0, YLT04].


Locality [ASK+16, CG15a, KFEG18, SKH+16, YDS+19, ZCQ+19, AIVL13, FER+13].

Locality-Aware [CG15a, KFEG18, SKH+16]. Localization [CEP+16]. location [KHN+18, YLW08].


Loops [CSN+16b, CLA+19, KFJ20, SN17, SRC16, JSL13, KLMP12, RTG+07]. Low [BGG+15, CAMJ15, DJL+12, GG18, GåSÅ+16, GDL16, LGP+16, LHC+17, Lou19, PLK+19, RCP15, SSW16, SW13, SWU+15, YEL+14, AGI+12, BB04, CCZ13, GKP14, MA08, SRLPV04, ZYV05].

Low-complexity [DJL+12, SRLPV04].

Low-Cost [SSW16, YEI+14, AGI+12, MA08].

low-energy [GKP14, ZYV05].

Low-latency [SW13]. Low-Level [BGG+15, Lou19]. Low-Overhead [GDL16, LHC+17].


LP [GFD+14].

Machine [ABP+17, DB13, BLO14, SCEG08, SPS12, WO13, WFTO14, WHH+13].

machine-learning-based [WFTO14].

Machines [BSS14, JK13, RB13, VED07].

MAGIC [KKW+15]. Main [AEE+19, ZFT+18, ZPR+17, DZC+13].

MAGIC [KKW+15]. Main [AEE+19, ZFT+18, ZPR+17, DZC+13].

Machines [BSS14, JK13, RB13, VED07].

MAGIC [KKW+15]. Main [AEE+19, ZFT+18, ZPR+17, DZC+13].

Maintaining [YCCY11]. Making [CRSP09, PLC+15, PI12, SGS+20].

Malicious [KKW+15]. Malware [WCI+16].
MAMBO [GDL16]. Managed [YWW12].

Management
[GT+16, GGMGZ+14, HYAR+15, HMYZ15, MPPS18, OTR+18, SEF+19, SAL19, SPS17, TTS19, ZDC+16, AVG12, FQRG13, GSZI10, HVJ06, KCKG14, LGAZ07, LFX09, LPZ12, RCG+10a, RB13, SW13, VS08, WWWL13, WSC+13, WDXJ14, WM11, ZYCZ10].

Manager [Per18]. Managing [APBR16, HS06, KNBK12, VS11, ZFL18, SSK11].

Manipulation [CNS16a, ZHB18]. Many [DT17, FMY+15, JLJ+18a, PVS+17, ZLYZ16, LNLK13, OGK+12]. Many-Core [FMY+15, JLJ+18a, PVS+17, ZLYZ16, LNLK13, OGK+12]. Many-Cores [DT17].


Matrix [ASH20, BSL17, YAG+16, CYXF13, SJV08].


McPAT [LAS+13]. Measuring [FMY+15]. Mechanism [CEP+16, SPS17, ZHS+19, ZCDD16, GB06, HWX+13, KS11, RDF13, SBC05].

mechanisms
[HWH+11, LCL+14, LMM08]. Mechanistic [BEE15, CHE+14].


Memory [AJK12, AYC16, AEE+19, AHA+19, BAZ+19, CKPH19, CWMC16, CLA+19, CG15b, CSDK9, DHK18, DDI6, DHD+14, ERAG+16, EEO9, FMY+15, GH15, GGMGZ14, GHS12, HNNK17, HHC+16, HASA16, JDZ+13, JML+20, JLJ+18a, KHB+20, LKJ+15, LGP+16, LWS+19, LP17, MYG15, MYKG16, NRQ16a, NRQ16b, NZI5, OTR+18, PWE20, RKC+20, RLBN15, SW17a, SMKH15, SJL+20, TKKM15, USCM16, WWH+16, WLL+19, WJX17, WZG+19, XHJY16, YBY19, ZZZ+19, ZFT+18, ZLYW18, ZLC+15, ZCQ+19, ZDC+16, ZWL+19, ZSM+16, ZPR+17, AF1D12, ATGN+13, CS10, CCZ13, DHC+13, DJX13, DZC+13, FQRG13, GPL+05, JSH09, JSM+04, KGK10, KCKG14, LAS+08, LGAZ07, LFX09, LCL+14, LHW12, MA08, PLL10, PCT12, RLS13, SV05, SL09, TBC+12, TCGA+12, VDS09, VED07, WKS12, YWWL13, WSC+13, WLZ+10, YITF13, YLTL04, YLW08, ZPC06, ZSLX13, ZDC+12].

Memory-access-aware [CL+19].

Memory-centric [SJ+20]. Memory-Disk [LYK+15]. memory-efficient [PLL10].

Memory-level [EE09].

Memory-Reliability [NRQ16b].


Methodology [TCS16]. Metric [SNN+19, SPS17, YHYBAM20].

Metric-Guided [YHYBAM20]. Metrics [EMR14, TDO16a]. MH [PLK+19].

MIAOW [BGC+15]. MiCOMP [ABP+17].

Micro [CAGS17]. Micro-Sector [CAGS17]. Microarchitectural

[FM+15, DJSB13, LB10].
Microarchitecture
[MMS15, ASK13, HS05, RPS06, SSS+04].
microarchitectures [ACGK04].
Microbenchmarking [FMY+15].
Microprocessor
[KCA+13, BE13, YCCY11].
Microprocessors
[GSZY20, BSO07, RCG+10a]. Migration
[JLJ+18a, LTX16, WLL+19, LJM012, MSF+07]. Million [CAY+18].
MIMD [FSYA09, GSZY20]. MInGLE [GaSA+16].
i miniature [JEB+08]. minimal [XL07].
MINIME [DS16]. MINIME-GPU [DS16].
minimization [CH06, SSR13]. Minimizing
[KHB+20]. mining [CDPD13]. Minos
[CWC06]. MIPS [SH15]. misaligned
[LWH11]. Mismatches [APBR16].
mis prediction [GW08]. miss [SLP08].
misses [CST+06, LS10, VHLP+11, Zha08].
Mitigating
[ABP+17, EPAG16, SYX+15, LCL+14].
m itigation [DJI+12]. mitigations
[CCD12]. Mixed [ASH20, XIC12]. MLC
[PM17, RJS+18]. MLC/TLC [PM17].
Mobile
[PLK+19, XZC+20, AvRF07, TBC+12].
Mobile-cloud [XZC+20]. mode [SW13].
Model [CC18, DAKK19, ESR+15, GGS+17, NZ15, SRC16, XHJY17, YCA18, ZHB18, DC07, MG13]. Modeling
[BEE15, KR19, LAS+13, SSC+13, AFD07, CA11, EE12, IMS+08, XMM04, SSS+04].
Models [CHE+14, FCD+17, GGS+19, GHH15, VFW16, XZC+20, LAS+08, XIC12].
Modern
[HYYAM16, CCD12, JK13, KNKB12].
Modification [GDL16]. Modify [RLS15].
Modulo [LMSE18, KCP13]. Moldable
[MKKE15]. Monitoring
[LHC+17, LMMM08, VDSP09, ZZQ+05].
monopolizable [DJI+12]. Moore
[DSH+18]. Morphable [KPKH19]. Most
PLT+15]. Movement [ESR+15]. Moving
[DAKK19]. MP [WLZ+13]. MP-Tomasulo
[WLZ+13]. MPI [WLX+13, MP13].
MPS oCs [DMR+16]. MRAM [WDX15].
MRAM-Based [WDX15]. MSHRs [CA11].
Multi [CC18, FMV+15, FCD+17, GVT+17, JPS17, JML+20, KLA+19, LT19, LGP+16, PLK+19, PGB+16, SPS17, ZCF18, vdVSAAS20, CDPD13, GWS13, LFC13, PM12, RB13, RPE12, ZGC+12]. Multi-
[FMY+15]. Multi-Agent [JPS17].
Multi-Core
[CC18, SPS17, PM12, ZGC+12].
Multi-Cores [ZCF18]. Multi-CPU
[PGB16]. Multi-dimensional [LT19].
multi-FPGA [CDPD13]. Multi-GPU
[vdVSAAS20, LFC13, RB13]. multi-issue
[GWS13]. Multi-Layer [LGP+16].
Multi-retention [PLK+19]. multi-server
[RPE12]. Multi-Tenant
[FCD+17, KLA+19]. Multi-type [JML+20].
Multibank [CG15b]. Multiblock [KPM17].
multicharacter [CW13]. Multicore
[ASV+16, BHC+16, CC13, CG15a, CDPN16, DS16, DAKK19, HMYZ15, HEMK17, KE15, KK15, LAS+13, LMA+16, LYH16, PT17, PGB16, SLJ+18, SKH+16, SAL19, ZDC+16, CG14, CK11, CWCS13, DKE13, FBWS13, HWX+13, LMJ+13b, LCL+14, LHZ13, RCG+10a, VE13, WFKL10, ZCW10].
Multiprocessors
[HK14, PB15, TDO16a, TTS19, MSF+07].
multidimensional [RTG+07]. Multigrain
[AZG17]. Multilevel
[XC17, YMM+15, JK13, TJK13].
multimedia [SV05]. multiobjective
[CPP08]. multiplatform [HLC10].
Multiple
[KHN+18, ZSM+16, GB06, HV06, RCV+12].
Multiplexing [NDP17]. Multiplication
[ASH20, YAG+16]. Multiply [GG18].
Multiply-Accumulate [GG18].
multiprocessor [BBG13, GSZ10, LT13].
Multiprocessors
[CP+15, LBM13, APG13, GPL+05].
LAS +08, LM05, LPZI12, LMMM08, SMK10. Multiprogram [EMR14]. Multisocket [CG15a]. Multithreaded [AZG17, JYE +16, LYH16, DWDS13, GMW09, TNG13, PGB13, RGC +12, RGC +10a, XIC12]. multithreading [EE09, GWM07].


Network-on-Chip [CEP +16, DJC16, EPS18]. Network-on-Chips [ZM15]. Networks [ACA +19, AMP +16, CVB15, GG18, GR15, MWJ19, RKC +20, RSK +18, ZFF +18, BKA13, LWWH12, PRMH13, SMK10, SEP07]. networks-on-chip [LWWH12]. Neural [GG18, GR15, MWJ19, PWE20, RKC +20, RSK +18, TDP15, ZFF +18, Jim09].


O [DCP +12, RHLA14]. Object [YLW08, ZLYW18, TGD13, VED07, WM10]. Objective [SAT20]. objects [WWY +12]. Oblivious [YRGES +19, CYXF13].


Offloading [HNNK17, MTK18, MGA +17]. offset [CZ07]. On-Chip [VFW16, JPS17, SSH19, BKA13, CK11, EE11, LNLK13, SMK10, TDG13, XCC +13].


OpenStream [PC13]. Operating [HK14]. Operations [BSL17, GGG18, LP17]. opportunities [KGK10, XMM04]. Optical [CWW +16].

Optimal [CH06, CBD15, GK13, KCA +13, Mic16, SW17b, SWH09, ZGP15, KCKG14, XC06]. optimised [RWFJ19]. optimising [LBO14].

Optimization [AYL +18, ABP +17, BSL17, CZGC20, DZSL20, DAP +15, FXC +15, GGS +17, GGS +19, JML +20, KAES16, LVR +15, MNC +16, RMA14, VFWE16, YKM17, YDL +17, ZCF18, CFH +12, CXW +12, CYXF13, DJX13, FT10, GHS12, HS06, HEL +09, HVJ06, JPS17, KPH +05, KWTD09, PJI3, SLM12, SSR13, SL09, VV11, ZFT +18, ZWMM05, ZCS06].

optimization-phase [KHW +05].
Optimizations [EPS17, JRK16, SHS+20, ZWS+16, LCH+04, LHY+06]. Optimize [DBH16]. Optimized [PKPM19, GS12].

Optimizer [LYK+15]. Optimizing [AP17, BJWS18, DGGL16, HHC+16, PAVB15, RLBBN15, STLM12, TN20, TKKM15, WDX15, YWXW12, YRHB13, ZSLX13, ZFF+15, YKK+12, WK09], optimum [HP04]. Orchestrating [MG13].

Orchestration [GVT+17]. Order [BEE15, CAY+18, HYYAM16, MAD17, PS15, SPH+17, BB04, GGYK19, KWD09, SJA12, YJTF13]. order/out [BB04].

Ordering [ABP+17]. organization [ASK13, GGFP12]. Oriented [FWJ+16, GGK18, BTS10, CXW+12, JML+20]. OS- [CRSP09]. Out-of-Order [HYYAM16, MAD17, PS15, GGYK19, BB04, SJA12].

overcoming [DZC+13]. overflow [CH06].


P [DDT+17]. Packed [BSL17]. packet [LWWH12]. packing [NB13, SPGE06].

Page [WLL+19, WZG+19, LMJ13a].

Parallel [ASK+16, ABB+16, DTD16, DDT+17, DHD+14, HAM19, HJW15, MCB+12, MPPS18, MGSH16, NKH16, PWPD19, RH15, RLBBN15, SN17, TMM16, WLZ+13, WGO15, ZLJ18, CDPD13, JY+13, LM05, NCC13, STLM12, VJC+13, ZBH+13].

Parallelism [CCM+16, CG15b, DHK18, GVT+17, HWJ+15, LMZ18, MGA+17, NKH16, SDH+15, YBSY19, ZX16, EE09, FLG12, PCT12, SLA+07, WFTO14].


per-task [LM+13b]. Per-thread [DEE13, BSR10]. perceptron [TS05].

Perfect [BRJ15]. Performance [AEJE16, AYL+18, BE15, FDF+14, GGS+19, GGK18, HMYZ15, JGSM15, KR19, LMS18, LY16, ME17, MTK18, MAD17, NDP17, Per18, RVOA08, RJS18, SLJ+19, TKS16, TKM14, USCM16, WCI+16, WLW19, XHJ17, XPS+19, ZFT+18, ZYC12, ZCF18, AFD12, ATGN+13, BSWLE13, BTO10, CTK11, CRSP09, CDM13, FBWS13, GW08, HP04, HLF07, JED19, KBR+13, KMP12, KGK10, LM05, PGB12, RW13, SRLPV04, SD12, WKS12, XT09, YRGES+19, YCCY11, ZVY05].

Performance-aware [ZCY10].

Performance-driven [XT09].

Performance-Energy [HMYZ15].

Performance-friendly [CRSP09].

permanent [SSC+13]. Permissions [ERAG+16]. Permutation [ZX19].

Permutation-Based [ZX19]. Persistence [EAM+20, WZG+19]. Persistent [ZLYW18].

Perspectives [PLT+15]. PGAS
[KFEG18, SKAEG16]. Phase
[ABP+17, HASA16, JDZ+13, YMM+15, KHV+05, KWT09, ZDC+12].
Phase-Change [YMM+15].
Phase-Ordering [ABP+17], phased
[HLR+13]. Photonic [DH16]. Piecewise
[DAP+15]. PIMBALL [RKC+20]. PiPA
[ZCW10]. Pipeline [ZJJ+15, HP04, JA14]. pipelined [PLL10, ZCW10]. Pipelines
[MG19, MG20, SSW+19]. pipelining
[JS13, RVOA08, RTG+07]. place [GS12].
Placement [MNSC16, MA08, SSK11].
Places [Per18]. Plane [DSK19, ZGC+12].
Platform [ZLYZ16]. Platforms [RVKP19].
PLDS [FLG12]. Point
[ASS17, BWG+12, CS13]. pointer
[SV05, YLTL04]. pointer-intensive
[YLTL04]. points [Nas13]. points-to
[Nas13]. Poker [ZK19]. Policies
[GFD+14, SYX+15, EE09, SSK11]. policy
[JK13]. Pollution [SYX+15]. Polyhedral
[GGs+19, KL19, LT19, PKC12, SYE19,
SGS+20, SRC16, VJC+13, ZC20, ZHlB18].
Polyhedron [GGs+17]. polymorphic
[PM12]. polymorphous [SNL+04].
polytopes [SLM12]. Port
[WDX14, GKP14]. Portability [FDf+14].
Portable
[Per18, RMA14, WGO15, KNBK12].
positioning [ZWHM05]. Pot [VSDL16].
potential [FER+13]. POWER [ACA+19].
Power [AEJE16, ACA+19, CAMJ15,
DTD16, DD16, FCD+17, GsS+16,
GBD+15, HYAR+15, HYyAM16, HAC13,
JGSM15, KH18, KMG14, LM05, LAS+13,
LWF+16, RWFJ19, SFR+19, WYCC11,
ZCF18, AVG12, BB04, CCZ13, HP04, HL07,
LYY07, MP13, MSK05, PLK+19, SW13,
SEP07, WYJL10, XL07, YCCY11].
Power-Aware
[ACA+19, DTD16, SEP07, WYJL10].
Power-Efficient [HAC13, KH18].
Power-Gating [ZCF18]. Power-optimised
[RFWJ19]. Power-performance [LM05].
Power/Capacity [GBD+15]. POWER8
[XFS+19]. Practical [FXC+15, KWT09,
BSWLE13, FT10, ZBH+13]. pre
[YCCY11, XC06]. pre-wakeup [YCCY11].
Preallocation [SSR13]. Precise [AFD07].
Precision [ASH20, LDG+13]. Predication
[HAC13]. predictability [LB30].
Predictable [DPB1+19, SF18, XHJY17].
Predicting [WLWB19]. Prediction
[EPS17, GAM12, OAM19, PLG19, YPT+16,
CST+06, Jim09, MG12, TS05]. predictive
[IMS+08, RBM10, YCCY11].
predictive/adaptive [RB310]. Predictor
[Mic18, OAM19, AGVO05, JSM+04, SL09].
Predictors [EPAG16]. Prefetch [SPS17].
Prefetch-Fraction [SPS17]. Prefetched
[SYX+15]. Prefetcher [LYH16, PB15,
PWE20, SYX+15, LJMg12, SBC05].
Prefetcher-Caused [SYX+15].
Prefixers [LB13]. Prefetching
[KFG18, LKV12, OAM19, SP17, WJ19,
AGI+12, CA11, GB06, SBC05, WFKL10,
YLTL04]. Pressure
[SKPD19, SLPO8, SSR13, YZ08].
Preventing [WDX14]. prevention
[TBS06]. Priority [ASV+16, XHJY16].
Private [DRHK15, SSK11].
Private/Shared [DRHK15]. Probabilistic
[DAD16, EE12]. Problem
[ABP+17, DBH16]. Problems [VFW16].
Process [LTX16, KWCL09]. Processing
[CC13, HNKK17, LTI9, MYG15, MYG16,
PBY+17, ZJL18]. Processing-In-Memory
[HNKK17, MYKM16, MYG15]. Processor
[AEJE16, AHA+19, BEE15, DSK19,
MYZ15, HYL+19, LP17, XFS+19, CS13,
GW08, LGAZ07, LYY07, SJA12, SCD13,
SSP+13, WFKL10]. Processor-Tracing
[HWL+19]. Processors
[ASV+16, CAMJ15, DBH16, KS16, KK15,
SM19, SHD15, VFJ+17, WYXW12,
YHYBAM20, CRSP09, CDD12, CSM04,
DEE13, EE09, EE12, FBW113, GMW09,
GWS13, GKP14, HWX+13, KlMP12,
LMCV13, PI12, RGG+12, SRLPV04, SLPP08, XT09, YZL+10. Productive [KFE918].
Productivity [KSBAG16]. Profile [CS13, S04, SKKB18, SSU+13, WFT014].
Profile-based [SS04, SKKB18].
profile-driven [WFT014]. Profile-guided [CS13, SSU+13]. Profiling [CG15a, JRK16, MPW+17, FBH04, MAN+08, NMK+06, ZCW10]. profit [ZSC06]. profit-driven [ZCS06].
Profitability [CLA+19]. Program [DSR15, PVA+17, ZHB18, DS12, PJ13].
Programmable [MCB+12, AS13, Zha08]. Programming [AJE+16, MGS16, PBY+17, YCA18, NCC13]. Programming-Based [AJE+16].
Programs [GKCE17, KPP+15, MPPS18, MNS16, RHC15, SGS+19, WGO15, PC13, PGB13, WO13, YLW08].
Public [WLWB19]. Purpose [CAM15]. push [YLT04].

QoS [ASP17, LPZ12, SAL19].
Quality [GSZ10]. Quantitative [TCS16].
Quantum [Lou19, SM19, IWP+04]. quasi [JSM+04]. quasi-static [JSM+04]. Queue [HLSW17, BB04]. QuMan [SKKB18].

R [VC16]. R-GPU [VC16]. Race [LHC+17, MNS16]. Racetrack [KHB+20].
Radio [DMR+16]. radix [ASK13].
RAGuard [ZHS+19]. RAM [LZL+13, PLK+19, RDK15, WDX14].
random [VSP+12]. ranges [MAN+08].
Rank [AJK+12]. Rate [CWC16, EPS18, SHD15]. RATT [CWC16]. RATT-ECC [CWC16].
Reach [JED19]. Read [MNS16, RJS18, RLS15, JLC13].
Read-Modify-Write [RLS15]. read/write [JLC13]. Real [CEP+16, DPB+19, KE15, KTA16, GK13, YZ08, ZGC+12].
Recompute [AEE+19]. Reconfigurable [DBH16, KHS+14, LMSE18, PT17, TD16, VC16, AS13, KLM12, KCP13, ZSLX13].
Reconfiguration [DTD16].
Reconstructability [BRJ15]. Recovery [LHY+06, RHA14]. Recycling [KKAR16].
Redirect [PT17]. Reduce [ASP17, DSR15, ZCC16, YZ08]. reduced [VED07], Reducing [CPP08, GWS13, HL07, JLC13, SLP08, TS15, ZHD+04, Zha08, ZWS+16, BCM11, MP13, PGB12, ZSM08]. Reduction [ASS17, KTA16, LSC+15, LWL18, SJL+20, MSL05, XT09]. Reductions [PWPD19].
Register [SKPD19, TS15, VZS+18, YWX12, YBSY19, BZS13, CH06, GKP14, JOA+09a, JOA+09b, JA14, SJV08, SLP08, SSR13].
Register-Pressure-Aware [SKPD19].
Reinforcement [JPS17]. Relational [YDS+19]. Relativization [BDB+20].
Relaxed [GHH15, RJS18, YJTF13]. relaxed-order [YJTF13]. release [GW09, JOA+09b, SLP08]. Reliability
NRQ16b, ZFT+18. Reliable
[CWMC16, KS16, KK15, ZLYW18, CPB+07].
Remapping [LWL18, ZPC06]. Remote
[TN20, NMKS06]. removal [BCVT13].
Removing [ACGK04]. renaming [JA14].
Rendering [PLK+19]. ReNIC [DCP+12].
reordering [CZ07]. Replacement [DAD16,
Mic16, FTGL11, TKJ13, WM11, ZDC+12].
Replay [CCL+13]. REplayer [DAP+15].
replication [ACGK04, DCP+12].
Representation [SGS+20, KCKG14].
representative [BE13]. requester
[ATGN+13]. requester-wins [ATGN+13].
ReRAM [ZFT+18]. ReRAM-based
[ZFT+18]. ReSense [DWDS13]. Resilience
[TCS16]. Resilient [SZK18]. Resistance
[RJSA18]. Resistive [MYKG16, TZZK18].
Resource [Per18, PS12, SAL19, ARS04,
DWDS13, GW08, NMKS06, VS11, ZK05].
resource-constrained [NMKS06, ZK05].
resource-efficient [GW08]. Resources
[KLA+19, RGG+12]. Retargetable
[SHY14, HEL+09, HLC10]. retention
[PLK+19]. Rethinking [ERAG+16]. return
[VS08]. Reuse
[DAD16, JLJ+18a, KE15, KR19, SSW+19,
AIVL13, FER+13, YZL+10, YLW08].
Reusing [PKPM19]. ReveNAND
[SZK18]. Reviewers
[Aca16, Aona13, Aona15, Bil19, Aona13a].
Revisited [AMG16, MBY13, VS08].
Revisiting
[GFD+14, KAC15, MMS15, WWWL13].
Rewrite [SHS+20]. RF [TBC+12]. RF-I
[TBC+12]. RFVP [YPT+16]. Road
[SWU+15]. ROCCC [BCV10]. Rollback
[YPT+16]. Rollback-Free [YPT+16].
Roofline [ESR+15]. ROP [ZHS+19].
router [APG13, ASK13]. routes [KCP13].
Routing [ACA+19, CVB15, YRGES+19,
BRSJG12, PRMH13]. row [JLCR13].
RRAM [LCS+19]. RRAM-Based
[LCS+19]. RSA [LFK19]. RTL [BGG+15].
Rules [SHS+20]. Runtime
[DBH16, DT17, KPP+15, LTG12, SSH19,
TT19, YAG+16, YRHBL13].
Runtime-Reconfigurable [DBH16].
Sabrewing [BWG+12]. Safe [YPT+16].
Safe-to-Approximate [YPT+16]. Safety
[CLA+19]. Salvaging [JDZ+13]. Sampled
[JYE+16, HS05]. Sampling
[Lee16, ZWS+16, JYJ+13]. SAQIP [SM19].
Scalability
[GVT+17, LMZ18, CWCS13, RVOA08].
Scalability-Aware [GVT+17]. Scalable
[ASK13, CNS+16b, KFJ20, MG19, Per18,
SM19, SYE19, SGS+20, SJL+20, TCS16,
ZLYW18, ZLJ18, ZM15, CWCS13, KCKG14,
LNLK13, LMJ13a, SSH+13, VW11]. Scalar
[SPH+17]. Scalarization [LAAMJ15].
Scale [CAY+18, DAKK19, JLJ+18a,
SHK+16, RCV+12, SMK10]. Scaling
[BHC+16, GBD+15, MKKE15, ZLC+15,
XMM04]. SCALO [GVT+17]. Schedule
[GGI+17, GGS+19, LMSE18, SSW+19].
Scheduler
[TD16, USCM16, CWCS13, KCP13].
Schedulers [KKAR16]. Scheduling
[AJE+16, ASV+16, DHD+14, MKKE15,
SKPD19, XHJY16, BG13, C14, EE12,
MBKM12, SPGE06, WH09, SRR13,
TBC+12, XLO7, ZGC+12, YCZ10].
Scheme [AEE+19, WPJ19, ZWL+19,
BG13, CCE13]. schemes [KCKG14].
SCIN [NTG13]. SCIN-cache [NTG13].
SCORE [ZWL+19]. SCP [SLJ+19].
Scratchpad
[JAK17, RTK15, YBSY19, CS10, LFX09].
script [KBR13b]. script-based [KBR+13].
Seamlessly [KNBK12]. Search
[HKA+19, KL19, ZX19]. searches
[KHW+05]. SECRET [LSC+15]. Section
[DSR15]. Section-Based [DSR15]. Sector
[CAGS17]. Sectored [CAGS17]. secure
[CRSP09, SSPL+13]. Security [SSH19].
Selecting [BE13, TDO16b]. Selection
[MNC+16, SNN+19, ZGP15, MBY13].
Selections [BAZ19]. Selective
[GGYK19, KMG14, LSC15, WPJ19, LWWH12, MA08, VSP12]. Self
[LLRC17, SAL19, BBG13]. Self-aware
[SAL19]. Self-Balancing [LLRC17],
self-scheduling [BBG13]. SelSMaP
[WPJ19]. Semantic [AP17, HCC14].
Sensible [LMA16]. Sensing [WCI16],
sensitive [Nas13]. sensitivity [DWDS13].
Sensor [DSK19]. Sensor-Processor
[DSK19]. Sequences
[ABP17, MNC16, KHW+05, PJ13].
Sequential [WLZ13, LZ12]. series
[LTG12]. Server
[AVG12, FCD17, LTG12, RPE12]. Servers
[LTX16]. Service [GMW09, GZS10]. set
[AR13, HL07, KWCL09, ZK06].
set-associative [HL07, KWCL09]. sets
[DDU12]. setups [RPE12]. sFtree
[BRJG12]. Shape [MWJ19]. Shared
[DRHK15, GP14, HMYZ15, KE15, LBM13, PG17, SKEG16, SLJ+19, WJX17,
XHJY16, AGI+12, AIVL13, GGFCPRG12, GSZI10, HLR+13, KGK10, LHWB12,
RGG+12, WM11, ZPC06]. shared-data
[HLR13]. shared-memory [ZPC06].
Shared-port [GP14]. Sharing [GJ18,
JAK17, KLA+19, YDL+17, ZJJ+15, SSK11].
Self [DPB19]. Shifts [KHB+20].
ShiftsReduce [KHB+20]. shotgun
[FBHN04]. showdown [SCG08]. shuffler
[BVIB12]. Side [AAH+19, BCHC19, JFK20,
LFW19, BVIB12, DJL+12]. Side-Channel
[BCHC19, JFK20, LFW19, BVIB12].
signatures [OAB12]. Significance
[PVA+17]. Significance-Aware [PVA+17].
Significantly [MP13]. Silent [PLG19].
silicon [PCT12]. SIMD [AR13, DSK19,
FSYA09, GSZ10, GR15, HEL+09, KMG14, LHW+19, MYG15, MYKG16,
RMA14, SMKH15, WWC+16, ZX19, ZX16].
Simplifying [ZZB+19]. SIMPO [ZLYW18].
SIMT [C18, LAAMJ15]. Simulating
[RPE12]. Simulation [JYE+16, SLJ+18,
vdVSAAS20, HS05, JYJ+13, RCV+12].
Simulations [CAY+18, HEMK17, JLJ+18b].
Simulator [LCS19, NRQ16b]. Simulators
[JLJ+18b]. Simultaneous
[LGP+16, EEO9, RCG+10a].
Simultaneously [LAS13]. Single
[RTG+07, ZWY17, CG14, GB06, JK13,
VE13, VK09]. Single-dimension
[RTG+07]. single-ISA [CG14, VE13].
single-referent [WK09]. size [MBY13].
Skeleton [NC15]. Skeleton-Based [NC15].
Sketch [XDDL19]. SketchDLC [XDDL19].
Skylake [HYAM16, YHYB120].
Skylake-Based [HYAM16, YHYB120].
SLOOP [ASP17]. Slowdown [XHJY17].
SM [ZJJ+15]. smart [AVGO05]. SMT
[EE12, LMVC13, PLT+15, SLP08, VS11,
WA08]. Snapshot [LDC15]. Snippets
[SWU+15]. Snug [HL07]. SoC [CWW16].
SoCs [FDF14, SAL19]. Soft
[BDB+20, FWJ+16, LKL+13]. Software
[BCHC19, DMR+16, GSC17, LCL+14,
MGI15, RCV+05, RWFJ19, SBS16, SEP07,
VCJ+17, VZS+18, YXW12, CS10,
HWW+11, HCC+14, MMdS06, RVO08,
RCG+10b, RTG+07, TGA+12, YRHBL13].
Software-based [LCL+14].
Software-controlled [RCV+05].
Software-Defined [DMR+16, TGA+12].
Software-Directed [VZS+18, SEP07].
software-guided [RCG+10b].
Software-Managed [YXW12]. Some
[KAC15, Mic16]. Source
[BGG15, HKA+19, YRGES19].
Source-adaptive [YRGES19]. Space
[BC13, CAGS17, KL19, CPP08, IMS+08,
Nas13, PJ13, VHLP11]. Space-Efficient
[BC13, Nas13]. spaces [BE13]. Sparse
[ASH20, BJWS18, SJL+20, YAG+16, AR13].
Spatiotemporal [LAAMJ15]. SPCM
[HASA16]. special [CDM13, HCA13, SD12].
Specialization [YAG+16]. Specialized
[GAS16, GASA13]. species [NCC13].
specific [CZGC20, PRM13]. Spectral
TACO
[AC16, Ane15, Ane13a, Ane13b, Bil19].

TACOMA [AVG12]. Tactics [CZGC20].

TAGE [Mic18]. TAGE-like [Mic18].

TaihuLight [AYL18, ZFF18]. taken
[PS12, PS12]. Taking [SWU15]. taming
[ZH13]. target [LBJ05]. Targets
[SAL19]. Task
[CCM16, DHD14, GTT16, KKA16, MPPS18, RH15, SN17, ZQ19, ZA17, CG14, LMJ13b, VTN13, ZYC10].

Task-Parallel [DHD14, MPPS18, SN17].

Task-stealing [ZQ19]. Tasks
[DMT17, MKK15, PVS17, PWP19, ZG12, PWP19].

Technique [HNK17, PGB16, XT09]. Techniques
[ATGN13, DJC16, HAC13, VZ18, YMM15, MMA66, MG12, RCG10a].

technologies [WLZ10]. technology
[NED13, RWY13]. Temperature
[SS10, MSF07]. Temperature-aware
[SS10, MSF07]. temperature-constrained
[MSF07]. Template [HJW15]. Temporal
[TKI13]. Temporal-based [TKI13].

Tenant [FC17, KLA19]. Tensor
[GGK18]. tenure [RBM10]. TEP
[LP17]. test [SV05]. Tetris [XT09]. Tetris-XL
[XT09]. their [GZ05]. Theory
[YDL17, YDS19]. Thermal
[LMM108, CK11, WA08, ZYC10]. Thread
[CDP16, DSR15, LMZ18, LMW18, LH16, MG15, PGB12, RCG10a, SF18, YBS19, BTS10, CCG13, DEE13, GPL05, LH13, MSF07]. Thread-Aware [LYH16].

Thread-Data [LWL18]. Thread-Level
[LMZ18, MG15, YBS19, GPL05].

Thread-management [RCG10a].

Threaded [GVT17]. Threading [KS16].

Threading-Based [KS16]. Threads
[BZ19, GB06, L212, ZSM08]. Three
[VFW16]. Threshold [HK14]. Throughput
[EMR14, KCA13, BKA13, BTS10, OGK12, TBC12]. throughput-oriented
[BTS10]. throughput/watt [TBC12].

Tiered [CWM16]. Tile [MBY13].

Tiled [KPP15, SYE19, ZCF18, CCI].

Tiled-MapReduce [CC13]. Tiles [ZC20].

Tiling [CC13, SH12, ZG15, BCVT13].

Time [BC13, CEP16, DPBI19, KE15, KTA16, Nas13, PKPM19, SFF19, CDD12, K13, KHL13, LTG12, LMVC13, RGG12, ZGG12]. Time-
[BC13, Nas13].

time-critical [RGG12]. time-series
[LTG12]. timekeeping [WM11].

timestamp [RSL13]. timestamp-based
[RSL13]. Timing [JKF20, LFA13, LFK19].

TL [ZGC12]. TL-plane-based [ZGC12].

TLB [JED19, LMJ13a, LGM13]. TLBs
[LM13]. TLC [PM17], TLP
[LMZ18, SNL04]. Token [RBM10].

token-counting [RBM10]. Tokens [ZFL18].

Tolerance [AAI16, RCV05]. Tolerant
[DSH18, HAM17, LCC11]. Tolerating
[KK10, YLT04]. Tomasulo [WLZ13].

Tomography [MNT12]. Tool
[GLD16, MPW17, PD17]. Tools
[BKM17]. Topological
[CVB15, KKM13].

Topologies [DKC16, YRG15]. Topology
[DHD14].

Topology-Aware [DHD14].

TornadoNoC [LPK13]. Trace [HW14, XDL19, CWS06, HCC14, SWH09].

trace-based [HW14]. Traces
[HEM17, SL18, TG07, ZG05]. Tracing
[HWM14, HCC14]. Tracking
[LLC17, MMT12, KHL13, VTN13].

trade [AVG12]. trade-off [AVG12].

Tradeoffs [GPL05]. traffic
[FQG13, LYY10]. Tranquilizer [PGB12].

Transaction [ZCC16, SSU13].

Transactional
[DHK18, DD16, GMGZP14, NZ15, PD17, RLS15, VSDL16, ZZB+19, ATGN+13, RLS13, SSU+13, TGAG+12, WKCS12, YJTF13].

Transactions [DD16, LDC15, SSU+13],

Transcendental [SSRS15], Transfer [HHC+16], exchanges [STLM12].

Transformation [BDB+20, CLA+19, JSL13],

transformations [BCVN10, RCG+10b, SLM12]. transition [CW13], transitioning [HWM14].

transitions [SW13], Translation [HWL+19, JED19, LHW+19, TKKM15, HWH+11, LWH11, LMJ13a], Translator [SHY14, HLC10]. Translators [DGGL16, GHS12], Transparency [GKCE17].

Transparent [RVKP19, ZHS+19]. Transport [AJE+16].

transpose [GS12], transpose-free [GS12].

Traversal [RMA14], Tree [ZX19, CDPD13, PRMH13], Trees [JGSM15, BRSGJ12], Triangular [BSL17].

Triggered [AJE+16]. Triple [LP17].

TRIPS [SNL+04], TSV [NRQ16a].

Tumbler [PGB16], Tunable [MGSH16].

Tuning [CG15a, JGSM15, JA14, MGI15, WG17, XFS+19, WKCS12]. Turbo [KH18].

turn [AGV05], turn-off [AGV05]. Two [CWMC16, JYE+16]. Two-Level [JYE+16].

Two-Tiered [CWMC16], type [AR13, JML+20]. Types [PD17].

UMH [ZSM+16]. Understanding [EPAG16, LS10, MMT+12, VE13]. Unified [TG07, ZSM+16, YXK+12, KRHK16].

Uniform [HK14]. Units [GG18, GáSÁ+16, SEF+19, GÁSÁ+13, HVJ06, YCCY11].

unloading [ZK05]. Unreliable [PVA+17].

Unsynchronized [DSR15], UPC [SKAEG16]. update [LZYZ09].

update-conscious [LZYZ09], usage [VS11].

Use [SW17a], Useful [SAT20]. User [KKAR16, ZHS+19]. User-Assisted [KKAR16]. User-Transparent [ZHS+19].

uses [GB06]. Using [AZG17, AMP+16, ABP+17, BSL17, BAZ+19, CCL+13, DAKK19, ESR+15, FDF+14, GáSÁ+16, GR15, HIJW15, JGSM15, KR19, Lou19, RLBBN15, SSH19, SYX+15, SPS17, SPS12, SHS+20, SSH+13, SSRS15, WO13, ZLYW18, ASK13, BZS13, CAMJ15, DDU12, DWDS13, DXMJ11, DJB13, EE11, HVJ06, JSH09, JSM+04, KKM+13, MG13, RCV+12, SHLM14, SWH09, SSR13, TTS19, YRGES+19, YCCY11, YCA18, ZHD+04, CST+06].

Utility [PB15]. Utility-Driven [PB15].

Utilization [CAGS17, LWF+16, SKKB18, TZZK18, VZS+18, YWWX12, ZCCD16, XCC+13].

Utilizing [TBC+12, KCP13]. UVMs [KRHK16].


References

Akturk:2016:ABN

Andreetta:2016:FPF

Ashouri:2017:MMC

Acacio:2016:LDR
Manuel Acacio. List of distin-
REFERENCES


**Andujar:2019:PPA**

**Aleta:2004:RCC**

**Alshboul:2019:ECR**

**Adileh:2016:MHP**

**Andrade:2007:PAA**

**Andrade:2012:SAW**
REFERENCES


[AMG16] Andrew Anderson, Avinash Malik, and David Gregg. Automatic vectorization of inter-

**Ashouri:2016:CCA**


**Anonymous:2013:LDR**


**Anonymous:2013:TR**


**Anonymous:2015:LDR**


**Alias:2017:OA**


**Ardestani:2016:MMV**


**Abad:2013:LLE**

Asher:2013:HTL

Akkary:2004:ARE

Antao:2013:CFA

Ahmad:2020:DDM

Ahn:2013:SHR

Anbar:2016:EHL

Azhar:2017:SQS
Angerd:2017:FAC


Akram:2016:BPG


Armejac:2013:TIP


Abbasi:2012:TSW


Amme:2007:SBM


Ahn:2016:AEE


Ao:2018:POH

Yulong Ao, Chao Yang, Fangfang Liu, Wanwang Yin, Lijuan Jiang, and Qiao Sun.

**Arteaga:2017:GFG**


**Budhkar:2019:AMD**


**Bai:2004:LPO**


**Belviranli:2013:DSS**


**Becchi:2013:DTS**


**Belleville:2019:ASP**


Raghuraman Balasubramanian, Vinay Gangadhar, Ziliang Guo, Cherin Joseph, Jaikrishnan

Bao:2016:SDF


Bilas:2019:LDR


Benatia:2018:BSM


Bakhoda:2013:DCN


Balasubramonian:2017:CNT


Bahmann:2015:PR

REFERENCES

ISSN 1544-3566 (print), 1544-3973 (electronic).

Bogdanski:2012:SFC


Baroudi:2017:OTB


Bower:2007:ODH


Bartolini:2014:AFG


Bardizbanyan:2013:DPD


Boyer:2010:FBP


Bayrak:2012:AII

Ali Galip Bayrak, Nikola Velickovic, Paolo Ienne, and Wayne Burleson. An architecture-independent instruction shuffler to protect against side-channel attacks. *ACM Trans-


REFERENCES

Cleary:2013:FAT


Chen:2013:CME


Coppens:2013:FDB


Chrysos:2013:HCP


Cruz:2016:HAT


Chrysanthou:2016:ORT


Chen:2012:DIO

[CFH+12] Yang Chen, Shuangde Fang,


Chen-Yong Cher and Eren Kursun. Exploring the effects of on-chip thermal variation on high-performance multicore...

[Cha:2019:MDC]

[CLA+19]

[CNS16a]


Adrián Cristal, Oliverio J. Santana, Mateo Valero, and José F. Martínez. Toward kilo-instruction processors. *ACM


Cui:2013:LCA


Chen:2016:RER


Co:2006:ETC


Chen:2016:IDO


Cui:2012:EPO


Chen:2013:LOC


Chen:2007:CRL

REFERENCES

Chelini:2020:DLT

Das:2016:RDB

Dogan:2019:ASU

DeOliveiraCastro:2015:CLB

Damsc:2016:EWP

Dou:2007:CCM

Dong:2012:RAE
Yaozu Dong, Yu Chen, Zhenhao Pan, Jinquan Dai, and Yunhong Jiang. ReNIC: Architectural extension to SR-IOV
REFERENCES


[Do:2016:PEH]


[DDT+17]


[Das:2012:ELC]


[DuBois:2013:PTC]


[DGGL16]


[Carlo:2014:FAA]
Demir:2016:EPP


Diouf:2013:DLM


Dreibes:2014:TAD


Dice:2018:IPH


Dubach:2013:DMA


Dsouza:2016:IMS


Domnitser:2012:NMC

REFERENCES


Deniz:2016:MGM

Deng:2018:EML

Debrunner:2019:AAK

Das:2015:SBP

Diavastos:2017:SLR

DeSensi:2016:RAP

Dey:2013:RMD
Tanima Dey, Wei Wang, Jack W. Davidson, and Mary Lou Soeta. ReSense: Mapping dynamic workloads

**Dong:2011:HCU**


**Du:2013:DCC**


**Daruwalla:2020:BVC**


**Elkhouly:2020:CSC**


**Eyerman:2009:MLP**


**Eyerman:2011:FGD**


Fang:2015:MMD


Fedorov:2013:AAL


Fung:2009:DWF


Fang:2015:PIO

Shuangde Fang, Wenwen Xu, Yang Chen, Lieven Eeckhout, Olivier Temam, Yunji Chen, Chengyong Wu, and Xiaobing Feng. Practical iterative op-

Fursin:2010:COP


Feng:2011:DAD


Fernandes:2016:EHO


Fang:2015:PIO


García-Guirado:2012:DDA


Gareev:2018:HPG


Ganser:2017:ISO


Ganser:2019:SIP

Xun Gong, Xiang Gong, Leiming Yu, and David Kaeli.

Gaster:2015:HRA


Guha:2012:MOD


Gerards:2013:ODD


Gonzalez-Mesa:2014:ETM


Gabor:2009:SLA

Ron Gabor, Avi Mendelson, and Shlomo Weiss.


Daniel Gerzhoy, Xiaowu Sun, Michael Zuzak, and Donald Yeung. Nested MIMD–SIMD parallelization for heterogeneous microprocessors. *ACM
Gaspar:2016:FA

Georgakoudis:2017:SSA

Golander:2008:HMP

Golander:2009:CAR

Gabor:2007:FES

Gavin:2013:RIF

Han:2013:PEP
Kyuseung Han, Junwhan Ahn, and Kiyoung Choi. Power-efficient predication techniques.

**Hasenplaug:2012:GBC**


**HasA16**

**[HAM17]**


**Ham:2017:DDS**

**Ham:2019:EDS**


**Hoseinzadeh:2016:SSP**


**Huang:2014:HHH**


**Hohenauer:2009:SOF**


REFERENCES


Kim Hazelwood and Michael D. Smith. Managing bounded

**Hu:2006:EMM**


**Hiser:2011:EIB**


**He:2015:IHF**


**Hong:2019:PTG**


**Haubl:2014:TTE**


**Huang:2013:ACM**

REFERENCES

ISSN 1544-3566 (print), 1544-3973 (electronic).


[Haj-Yihia:2015:CDP]


[Ipek:2008:EAD]


[Ipek:2008:EAD]

[Jothi:2014:TCF]


[Jothi:2014:TCF]

[Jatala:2017:SSG]


[Jatala:2017:SSG]

[Jiang:2013:HA]

[Lei Jiang, Yu Du, Bo Zhao, Youtao Zhang, Bruce R. Childers, and Jun Yang. Hardware-assisted cooperative

[Jiang:2013:HA]

**Joshi:2008:DEP**


**Jaleel:2019:DHP**


**Jiang:2020:EBC**


**Jia:2015:GPP**


**Jimenez:2009:GNB**


**Jantz:2013:ESM**


**Jensen:2017:ILD**

Nicklas Bo Jensen and Sven Karlsson. Improving loop
Jeon:2013:RDR


Jang:2012:ACO


Jin:2018:LCM


Jo:2018:DSD


Jiang:2020:LLA


Jones:2009:EER

Jones:2009:ELE


Jain:2017:CMA


Jantz:2016:IIP


Jeon:2009:AAP


Jeong:2013:EET


Juang:2004:IBP


Jiang:2016:TLH

Chuntao Jiang, Zhibin Yu, Lieven Eeckhout, Hai Jin, Xiaofei Liao, and Chengzhong Xu. Two-level hybrid sampled simulation of multithreaded applications. *ACM Transactions on Architecture and

Jiang:2013:PAP


Komuravelli:2015:RCH


Kim:2018:BEE


Khan:2013:SBA


Kritikakou:2013:NOM


Kritikakou:2014:SNO

REFERENCES

Kim:2013:FMS


Kayraklioglu:2018:LLA


Koraei:2020:DSS


Kourtis:2010:ECO


Kondguli:2018:CME


Khan:2020:SMS

Kerschbaumer:2013:IFT


Kim:2018:CEC


Kaitoua:2014:HED


Kulkarni:2005:FES


Kanuparthi:2015:RIC


Kurt:2016:UAS

Kawahito:2013:IRF


Karimi:2015:MMA


Kronawitter:2019:PSS


Kannan:2019:CIE


Kim:2012:IPN


Kumar:2014:EPG


Kicherer:2012:SPA


Kanakagiri:2017:MMD


Kong:2015:CRF

[102x681]REFERENCES

KPP+15


Kiani:2019:ECP

[102x681]REFERENCES


Kleanthous:2011:CMD

[102x681]REFERENCES


Kalayappan:2016:FRT


Kafshdooz:2016:CTO


Koukos:2016:BHU

Mortaza Mohajjel Kafshdooz, Mohammadkazem Taram, Sephei


[LAS+13] Sheng Li, Jung Ho Ahn, Richard D. Strong, Jay B. Brockman, Dean M. Tullsen, and Norman P. Jouppi. The McPAT framework for multicore and manycore architectures: Simultaneously modeling power, area, and tim-
REFERENCES


Lee:2010:AIC


Li:2005:ABT


Lustig:2013:TIC


Leather:2014:AFG


Lin:2004:CFS

Lei Liu, Zehan Cui, Yong Li, Yungang Bao, Mingyu Chen, and Chengyong Wu. BPM/BPM+: Software-based


Lin:2006:RCG


Luo:2013:DIH


Lira:2012:MPA


Lee:2013:DCD


Lee:2012:WPW


Lee:2017:DBT


Li:2005:PPC

Jian Li and José F. Martínez. Power-performance considerations of parallel computing on

**Liu:2016:SEA**


**Luque:2013:FCT**


**Li:2013:PTL**


**Liu:2013:HSA**


**Long:2008:TMM**


**Lee:2018:IEE**

Lin:2018:GPV


Lee:2013:TLS


Louise:2019:FST


Lin:2017:TEP


Li:2012:DQM


Lotfi:2015:AAC


Liu:2010:UBI

REFERENCES

Lin:2015:SSE

Lee:2013:APF

Leben:2019:PCM

Lewis:2012:REC

Liao:2016:DPM

Luporini:2015:CLO

Li:2016:MAP
REFERENCES

78

Li:2011:EEM

[LWH11]

Lin:2018:GTD

[LWL18]

Li:2019:EGC

[LWS+19]

[LYH16]

Liu:2016:TAA

[LYH16]

Lee:2015:NMD

[LWS+19]

Lankes:2012:BSP

[LWH11]

Lu:2016:AFB
REFERENCES

Luo:2007:CNP


Luo:2012:DDS


Li:2013:CCC


Mehrara:2008:ESP


Mohammadi:2017:COE


Mysore:2008:FIP

Shashidhar Mysore, Banit Agrawal, Rodolfo Neuber, Timothy Sherwood, Nisheeth

Malits:2012:ELG


Mehta:2013:TSS


Majumdar:2012:MPE


Malik:2013:OSG


Matheou:2015:ASD


Matheou:2017:DDC


Mccandless:2012:CTI


Malik:2013:OSG

**Mastoras:2019:ESE**


**Mastoras:2020:CDL**


**Mendonca:2017:DAA**


**Muralidharan:2016:DTN**


**Michaud:2018:ATL**


**Michaud:2018:ATL**


Melot:2015:FCS


Marathe:2006:ACC


Michaud:2015:RCM


Mazloom:2012:DTI


Martins:2016:CBS


Mcpherson:2016:FPL

Mattheakis:2013:SRM


Manivannan:2018:GDB


Mukhanov:2017:AFG


Michaud:2007:STM


Meng:2005:ELL


Mbakoyiannis:2018:EPC


Mammadli:2019:AGD

Rahim Mammadli, Felix Wolf, and Ali Jannesari. The art of getting deep neural


Adarsh Patil and Ramaswamy Govindarajan. HAShCache: Heterogeneity-aware shared DRAMCache for integrated heterogeneous systems. *ACM Transactions on Architecture


Prisacari:2013:FPS


Premillieu:2012:SSR


Premillieu:2015:EOE


Patsilaras:2017:RRD


Parasyris:2017:SAP


Pathania:2017:DTM


Peled:2020:NNP

Leeor Peled, Uri Weiser, and Yoav Etsion. A neural network prefetcher for arbitrary memory access patterns. ACM


Rico:2012:SLS

Rollen:2013:VSC

Radojkovic:2012:EIS

Rashing:2020:PBN
Salonik Resch, S. Karen Khatamifard, Zamshed Iqbal


REFERENCES


Suh:2015:DMR


Samadi:2014:LGU


Stoltzfus:2020:TOS


Shen:2014:RSB


Sharafeddine:2012:DOE


Srikanth:2020:MAS


Shahbahrami:2008:VES


Karthik Sangaiah, Michael Lui, Radhika Jagtap, Stephan

Su:2019:SSC


Seghir:2012:IAT


Shark:2008:RRP


Sargaran:2019:SSA


Sanchez:2010:ACI


Schaub:2015:ISW

References

Shrivastava:2017:EEC


Sankaralingam:2004:TPA


Shekofteh:2019:MSG


Sharkey:2006:IPT


Stanic:2017:IVS


Swami:2017:EEC


Stock:2012:UML

Kevin Stock, Louis-Noël Pouchet, and P. Sadayappan. Using ma-


Sadeghi:2019:TCN


Samih:2011:EPP


Strydis:2013:SAP


Shobaki:2013:PIS


Suresh:2015:IFM


Skadron:2004:TAM


Stipic:2013:PGT

[SSU+13] Srdan Stipic, Vesna Smiljkovic, Osman Unsal, Adrián Cristal, and Mateo Valero. Profile-guided transaction coalescing-lowering transactional over-

**Sardashti:2016:YAC**


**Sioutas:2019:SSH**


**Saidi:2012:OED**


**Salami:2005:DMI**


**Shifer:2013:LLA**


**Sardashti:2017:CCG**


**Sen:2017:PGE**

[SW17b] Rathijit Sen and David A. Wood. Pareto governors

**Spink:2016:HAC**


**Shobaki:2009:OTS**


**Simon:2015:STH**


**Sato:2019:AFS**


**Seshadri:2015:MPC**


**Shihab:2018:RFD**


**Terdsteerasukdi:2012:URI**

Kanit Therdsteerasukdi, Gyungsu Byun, Jason Cong, M. Frank
REFERENCES


Erik Tomusk, Christophe Dubach, and Michael O’Boyle. Selecting heterogeneous cores

[Trinh:2015:EDE]

[Tallam:2007:UCF]

[Titos-Gil:2012:HTM]

[Tian:2013:TBM]

[Tong:2015:OMT]

[Tawa:2014:EEF]

[Tampouratzis:2016:AIH]
Nikolaos Tampouratzis, Pavlos M. Mattheakis, and Ioannis Papaefstathiou. Accelerating intercommunication in

**Thangamani:2020:ORC**


**Tartara:2013:CLC**


**Tarjan:2005:MPG**


**Tabkhi:2015:JSH**


**Tzilis:2019:EER**


**Tavana:2018:BCA**


**Usui:2016:DDA**

Hiroyuki Usui, Lavanya Subramanian, Kevin Kai-Wei Chang, and Onur Mutlu. DASH: Deadline-aware high-performance memory scheduler for heterogeneous systems with hardware accelerators.
REFERENCES


VanDenBraak:2016:RGR


Vocke:2017:EHI


Venkataramani:2009:MAM


vanderVlag:2020:ECB


VanCraeynest:2013:UFD


Venstermans:2007:JOH


Vermij:2017:AIN

Erik Vermij, Leandro Fiorin,

[VJC+13]


[VFW16]


[VGX16]


[VS08]


[VTS19]


[VFST19]

Hans Vandierendonck and André Seznec. Managing
REFERENCES


[Vale:2016:PDT]


[Valero:2012:CRI]


[Vandierendonck:2013:ADT]


[Vespa:2011:DF]


[Voitsechov:2018:SDT]


[Vasilache:2020:NAL]


Winter:2008:ATN

Wibowo:2016:ACL

Wang:2014:EA

Wang:2015:BOM

Wang:2014:PSR

Wang:2016:HPC

Wang:2014:EAC

Wo:2010:CVI
Dong Hyuk Woo, Joshua B. Fryman, Allan D. Knies, and Hsien-Hsin S. Lee. Chameleon: Virtualizing idle acceleration cores of a heterogeneous multicore processor for caching and prefetching. *ACM Transactions on Architecture and
REFERENCES


Weber:2017:MAL


Wang:2015:APM


Wimmer:2013:MAV


Wei:2017:HHM


Wegiel:2009:SRC


Wang:2012:TMA


Wang:2019:SSL

Xiaoyuan Wang, Haikun Liu, Xiaofei Liao, Ji Chen, Hai Jin, Yu Zhang, Long Zheng, Bingsheng He, and Song Jiang. Supporting superpages and lightweight page migration in

**Wang:2019:PNW**


**Wu:2010:DEH**


**Wang:2013:MTD**


**Wimmer:2010:AFD**


**Wu:2011:ATR**


**Wang:2019:GGC**


**Wang:2013:UML**

Zheng Wang and Michael F. P. O’Boyle. Using machine learning to partition streaming pro-


**Xiong:2016:MAS**


**Xiong:2017:PPP**


**Xekalakis:2012:MSM**


Chunwei Xia, Jiacheng Zhao, Huimin Cui, Xiaobing Feng,

**[Yilmaz:2016:ARS]**


**[YBSY19]**


**[YCA18]**

Hervé Yviquel, Lauro Cruz, and Guido Araujo. Cluster programming using the OpenMP accelerator model.

**[Yu:2019:ITL]**


**[YDLY+17]**


**[Yuan:2019:RTL]**

REFERENCES


Hanbin Yoon, Justin Meza, Naveen Muralimanohar, Norman P. Jouppi, and Onur

Yazdanbakhsh:2016:RRF


Yebenes:2019:CSA


Yiapanis:2013:OSR


Yan:2008:EVR

Jun Yan and Wei Zhang. Exploiting virtual registers to re-

Yang:2010:ERS


Zhao:2013:HPP


Zhao:2020:FTF


Zhao:2016:FMR


Zoni:2018:DEP


Zhao:2019:BLA

Han Zhao, Quan Chen, Yuxian Qiu, Ming Wu, Yao Shen, Jingwen Leng, Chao Li, and Minyi Guo. Bandwidth and locality aware task-stealing for manycore architectures with bandwidth-asymmetric memory. *ACM Transactions on Architecture and Code Optimization*, 15(4):55:1–55:??, Jan-


Yang Zhang, Dan Feng, Wei Tong, Yu Hua, Jingning Liu, Zhipeng Tan, Chengning Wang, Bing Wu, Zheng Li, and Gaoxiang Xu. CACF: a novel circuit architecture co-optimization framework for
improving performance, reliability and energy of ReRAM-based main memory system. 


[ZHS+19] Jun Zhang, Rui Hou, Wei Song, Sally A. Mckee, Zhen Jia, Chen Zheng, Mingyu Chen, Lixin Zhang, and Dan Meng. RAGuard: an efficient...

Zhang:2015:BSS


Zhang:2005:DIE


Zmily:2006:BAI


Zhao:2015:BSB


Zheng:2018:ESG


Zheng:2018:SSM


REFERENCES


Zhang:2005:WHC


Zhang:2005:WHC


Zhao:2005:IWA


Zhou:2019:SNS


Zheng:2017:ERI


Zhou:2016:CAE


Zhou:2016:CAE


Zhang:2017:PPB
REFERENCES


Zhou:2010:PA


Zardoshti:2019:STM


Zhou:2005:EF