

# A Bibliography of Publications in *IEEE Computer*: 1980–1989

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

Tel: +1 801 581 5254

FAX: +1 801 581 4148

E-mail: [beebe@math.utah.edu](mailto:beebe@math.utah.edu), [beebe@acm.org](mailto:beebe@acm.org), [beebe@computer.org](mailto:beebe@computer.org) (Internet)

WWW URL: <https://www.math.utah.edu/~beebe/>

21 December 2023

Version 2.19

## Title word cross-reference

3 [103].

-D [103].

1 [174, 324]. 11 [45]. 1980s [196]. 1987 [193]. 1990s [83].

2D [330].

3 [104, 331]. 3-D [104, 331]. 38 [142]. 3D [183, 330].

5 [277].

754 [26]. 79 [32].

Abingdon [323]. Abstractions [125].  
Access [231, 247]. accidents [165].  
According [240]. Accuracy [293]. ACM [221]. Acquisition [330]. across [286]. Ada [31, 139, 147, 287]. Adaptable [17, 90].  
Adaptive [179, 232, 236, 318]. Added [113].  
Addressable [326]. ADMS [153].  
Advanced [99, 280, 310]. aerodynamics [337]. Aided [206]. Alamos [334]. Algebra [175]. Algorithm [361]. Algorithmic [133, 291, 316]. Algorithms [8, 49, 105, 109, 157, 178, 265]. Allocation [19]. Alternatives [326]. Ambler [314].  
Amdahl [264]. Ames [337]. Analog [234].  
Analysis [25, 41, 77, 123]. Animating [122].  
Announcements [204, 205]. Appendix [267]. Application [249]. Applications [26, 67, 73, 110, 256, 336]. Applying [64].  
Appreciation [239, 267]. Apprentice [268].

**Approach** [66, 72, 79, 140, 346, 349]. **Approaches** [3, 250]. **April** [267]. **Arbitrary** [265]. **Architecture** [14, 34, 73, 88, 116, 129, 162, 163, 168, 230, 256, 259, 264, 282]. **Architecture/Compiler** [168]. **Architectures** [17, 50, 71, 134, 158, 160, 271]. **area** [12]. **Arithmetic** [2, 23, 24, 26, 51]. **Armstrong** [249]. **Array** [34–36, 173, 176, 178, 179, 265]. **Arrays** [135, 157, 172, 177, 181, 182, 243]. **ART** [236]. **Artificial** [158, 160]. **assembly** [296]. **Assistant** [143, 304]. **Associative** [326]. **Assuring** [342]. **Astronautics** [324]. **Augmented** [170]. **Authority** [231]. **automated** [296]. **Automatic** [62, 257, 302]. **Automation** [30, 290, 295–298]. **automation-robotics** [298]. **Autonomous** [313–315]. **Avalon** [275]. **Avalon/C** [275].

**Back** [3, 4]. **Back-End** [3, 4]. **Balancing** [58]. **band** [12]. **Base** [39, 40, 64, 162, 215]. **Based** [6, 58, 81, 95, 128, 141, 156, 183–188, 301, 359]. **batch** [296]. **Beamforming** [179]. **Behavior** [80]. **benchmark** [323]. **Beyond** [124]. **Bibliography** [238]. **Bidirectional** [241]. **Binary** [23, 234, 240]. **Birth** [279]. **Book** [127, 211]. **Box** [248]. **Box-Structured** [248]. **Branch** [85]. **Broadband** [350]. **Broadcast** [8]. **Browsing** [140, 225]. **Buffer** [45, 85]. **Building** [81, 166, 321]. **bullet** [165]. **Bus** [16]. **Business** [30].

**C** [275]. **C2** [278]. **Cabinet** [247]. **caches** [273]. **CAD** [105, 161, 183, 184, 187, 307]. **CAD-based** [183]. **calculating** [9]. **Calendar** [208]. **Call** [209]. **CAM** [105]. **Camera** [112]. **Capacity** [119, 142]. **Career** [210]. **Case** [197, 214, 273]. **CCD** [242]. **Cellular** [88, 180]. **Center** [336, 337]. **Chaining** [341]. **Characterization** [254]. **Charlotte** [343]. **Checking** [7]. **Chief** [192]. **Chinese** [106]. **Chinese/Kanji** [106]. **Chip** [32, 241]. **Chips** [1]. **Circuit** [349]. **Circuits** [7, 241, 242, 302]. **Cm\*** [68]. **Code** [286]. **Codes** [7]. **coding** [362]. **Coherence** [227]. **Collapsed** [303]. **Collapsed-Fault** [303]. **Color** [78]. **Combinatorial** [117]. **Combining** [308]. **Commercial** [166, 231]. **Communication** [12, 66]. **Comparison** [240]. **Compiler** [11, 168, 287]. **Compiler-Compiler** [11]. **Complete** [152, 365]. **Complex** [197]. **Complexity** [124]. **Components** [137]. **Composing** [284]. **Compression** [91, 361, 362, 365]. **Computation** [15, 49, 245, 293]. **computational** [337]. **Computations** [346]. **Computer** [22, 38, 55, 58, 63, 66, 71, 74, 92, 98, 100, 102, 112, 116, 128, 158, 162, 168, 174, 191, 193, 201, 206, 213, 221, 271, 280, 289, 353, 357, 359]. **Computer-Aided** [206]. **Computer-Based** [128]. **Computers** [124, 196, 255, 260, 327]. **Computing** [12, 35, 48, 51, 149, 221, 234, 237, 263, 288, 353]. **Concept** [172, 173, 182, 226]. **Concepts** [110, 261, 310]. **Concurrent** [51, 108, 255, 346]. **Conference** [193, 206, 262]. **Conferences** [207]. **Conferencing** [128]. **Configuration** [113, 348]. **Configurations** [138]. **CONLAN** [110]. **Connection** [256]. **Connectionist** [160]. **Considerations** [6, 61, 156, 281]. **Constrained** [319]. **Constraints** [360]. **Construction** [104, 226]. **Content** [326]. **Content-Addressable** [326]. **Contention** [269]. **contents** [190]. **Control** [89, 144, 185, 188, 231]. **Controller** [179]. **Controlling** [318]. **Controversy** [124]. **Convex** [278]. **Core** [221]. **Correcting** [7]. **Correctness** [252, 270]. **Coupled** [229]. **cover** [189]. **Coverage** [303]. **Covered** [152]. **Cray** [279, 341]. **Criteria** [240]. **Cross** [323]. **Crossbar** [171]. **Current** [120, 129, 241, 252, 295–298]. **Current-Mode** [241]. **Curriculum** [344]. **Curved** [69]. **Cut** [113]. **Cydra** [277].

**D** [103, 104, 331]. **Dallas** [193]. **DARPA** [74, 131]. **Data** [18, 19, 39–42, 53–56, 59, 64, 91, 105, 106, 162, 182, 215, 250, 265, 329–332, 338, 356, 359, 361, 365]. **data-base** [40]. **Data-Driven** [182, 265]. **Data/Knowledge** [162, 215]. **Database** [71, 86, 90, 97, 102, 136, 140, 355, 357]. **Databases** [126, 151, 155, 161, 214, 360]. **Dataflow** [52, 133]. **Deadlock** [13, 351]. **Debugging** [347]. **decisions** [277]. **Declarative** [346]. **Decomposing** [105]. **defense** [283]. **Definitive** [364]. **Denormalized** [27]. **departmental** [277]. **Depth** [321]. **Description** [111]. **Design** [1, 6, 45, 66, 85, 89, 90, 108, 125, 136, 139, 144, 145, 153, 156, 179, 198, 206, 216, 253, 272, 277, 278, 281, 304, 325, 349, 359]. **Designing** [343]. **Designs** [301]. **detection** [351]. **Determining** [78]. **Development** [10, 121, 217, 222, 246, 301, 305]. **Developments** [176]. **Diagnostic** [97]. **Digital** [80, 230]. **direct** [273]. **direct-mapped** [273]. **Directed** [97]. **Directions** [14]. **Discipline** [221, 288, 289]. **Disk** [59, 119, 156]. **Disk-Based** [156]. **Disks** [247]. **Display** [329]. **Distributed** [8, 12, 19, 67, 132, 139, 169, 274, 320, 334, 351]. **distributions** [9]. **do** [164]. **Document** [129, 222, 223]. **domain** [264]. **Domesticating** [148]. **Down** [104]. **drawing** [5]. **Drawings** [104]. **Driven** [182, 253, 265]. **Dual** [184]. **Dynamic** [266, 324].

**Earth** [332]. **easy** [5]. **easy-to-use** [5]. **Editing** [223]. **Editor** [169, 192, 238]. **Editor-in-Chief** [192]. **Editors** [84, 218, 355]. **education** [289]. **Efficient** [108, 152]. **Electrical** [213]. **Electronic** [76, 127, 297, 333]. **Electronics** [213]. **End** [3, 4]. **Engineer** [304]. **Engineering** [104, 126, 165, 278, 308, 328, 344]. **Engineers** [213]. **Enhancement** [246]. **Enhancing** [126]. **Environment** [28, 29, 31, 94, 101, 140, 146, 220, 226, 245, 304, 321]. **Environments** [216, 217, 219, 345]. **Errata** [24]. **Error** [7]. **Error-Correcting** [7]. **essence** [165]. **Essential** [114, 178]. **Ethernet** [63]. **Evaluating** [138]. **Evaluation** [166]. **Event** [227]. **Evolution** [63, 306, 345, 353]. **Exception** [294]. **Exchange** [170]. **Execution** [46]. **Exercise** [253]. **Expanding** [328]. **Experience** [81, 343]. **Experimental** [131, 338]. **Experiments** [62]. **Expert** [97, 142, 144–146, 166, 261]. **Exploration** [314]. **Expressing** [109].

**Facilitate** [36]. **Facility** [245, 310, 343]. **Facts** [225]. **Fall** [193]. **Fault** [96, 177, 229, 303]. **Fault-Tolerant** [96, 229]. **Federal** [115]. **Field** [329]. **Fifth** [116]. **Fifth-Generation** [116]. **File** [62, 162, 247]. **Filtering** [232]. **Finding** [225]. **Fixed** [157]. **Fixed-Size** [157]. **Flames** [330]. **Flexible** [67]. **Flight** [310]. **Floating** [2, 23–26]. **Floating-Point** [2, 23, 25]. **Flow** [18, 53–56, 64, 329]. **Flows** [330]. **Fluid** [329]. **FolioPub** [224]. **Force** [221]. **Formal** [198, 252]. **Formalization** [219]. **Format** [363]. **Formats** [129]. **Fortran** [36, 251]. **Framework** [307, 316]. **Free** [60]. **Friends** [148]. **Front** [189]. **Functional** [79, 150]. **Functionally** [34]. **Fuzzy** [261].

**GaAs** [168, 179]. **Gateway** [47]. **Gateways** [73, 74]. **General** [174, 281]. **General-Purpose** [174, 281]. **Generating** [303]. **Generation** [20, 116, 263, 300, 302]. **Genesis** [102]. **Gentest** [302]. **geographic** [41, 356]. **GEOMATIC** [103]. **Geometric** [293]. **Good** [342]. **Government** [115]. **Graduation** [312]. **graph** [5]. **Graphic** [103, 363]. **Graphical** [101, 120, 121, 274, 348]. **Graphics** [22, 98, 130, 259]. **graphs** [54]. **Grasping** [295]. **Grids** [317]. **Guest** [84, 169, 238, 355]. **Guide** [2, 24, 364].

**Handling** [145, 294]. **Hardware** [80, 107, 109, 111, 252, 304, 354]. **Hashing** [266]. **Heterogeneous** [74, 86, 245]. **High** [91, 119, 230, 260, 300]. **High-Level** [300]. **High-Performance** [91]. **High-Speed** [119, 230, 260]. **Highly** [48, 51]. **Holy** [37]. **Hyper** [250]. **Hyper-Semantic** [250]. **Hyperchannel** [75]. **Hypertext** [194, 225].

**IBM** [142, 251, 339, 341]. **IC** [204]. **ICs** [240]. **IEEE** [26, 206]. **IEEE-754** [26]. **If** [60]. **Image** [71, 355, 358]. **impact** [12]. **Implementation** [2, 24, 152, 172, 173, 182, 233]. **implementations** [110]. **Improving** [195]. **Inc.** [213]. **individual** [362]. **Influence** [345]. **Infomart** [193]. **Information** [41, 42, 130, 226, 272, 321, 356]. **Inheritance** [275]. **Inspection** [322]. **inspections** [270]. **Institute** [213, 312, 344]. **Instruction** [93, 124, 197, 324]. **Instruction-Level** [93]. **Integrated** [71, 216, 359]. **Integrating** [35, 136, 181]. **Integration** [89]. **Integrity** [360]. **Intelligence** [158, 160]. **Intelligent** [47, 295, 313]. **Interactive** [98, 101, 331]. **Interchange** [129, 130]. **Interconnecting** [74, 76, 86, 137]. **Interconnection** [43, 44, 169, 170, 285]. **Interface** [125, 309]. **Interfaces** [274, 284]. **Interfacing** [105]. **Interlisp** [29]. **Intermedia** [226]. **Internal** [266]. **International** [129, 206]. **Internet** [74]. **internetworking** [73]. **Interoffice** [132]. **Interpreter** [70]. **Interpreting** [33]. **InterViews** [284]. **Introduction** [84, 169, 194, 238, 252, 254, 355]. **investigate** [270]. **IS-A** [77]. **ISDN** [350]. **Isn't** [77]. **ISR** [357]. **Issues** [4, 14, 114, 139, 287].

**Joint** [193]. **Jukebox** [119].

**Kanji** [106]. **Kernel** [320]. **Kingdom** [176]. **Knowledge** [79, 81, 82, 97, 126, 144, 162, 215, 225, 308, 359]. **Knowledge-Based** [81, 359].

**Knowledge-Directed** [97]. **KRYPTON** [79].

**Laboratory** [334, 335, 338]. **LANDSAT** [41]. **Language** [10, 14, 30, 108, 109, 111, 218, 345, 359]. **Languages** [40, 53, 56]. **Large** [15, 49, 119, 135, 162, 214, 332]. **Large-Capacity** [119]. **Large-Scale** [15]. **Lawrence** [335]. **learned** [316]. **Learning** [315, 319]. **length** [9]. **Level** [93, 292, 300]. **Library** [301]. **Library-Based** [301]. **Linda** [148]. **Linear** [175]. **Links** [75, 77]. **LISP** [32, 163, 254]. **Literature** [212]. **Livermore** [335]. **Load** [58]. **Local** [12, 58, 63]. **Localization** [187]. **Logic** [238, 239, 241, 243, 267].

**Machine** [116, 256]. **Machines** [56, 64, 163, 215, 313]. **Mail** [76, 131, 132]. **Maintenance** [325]. **Management** [57, 71, 86, 154, 224, 262, 309, 355, 359]. **Managing** [161]. **Manipulating** [42]. **Manipulation** [322]. **Manipulators** [188]. **Manufacturing** [187]. **Map** [356]. **mapped** [273]. **Mapping** [157, 178, 272]. **Mass** [60, 61, 118]. **Master** [344]. **Matrix** [51, 174]. **Matrix-1** [174]. **matures** [289]. **Maximum** [251]. **Measuring** [9, 69]. **Mechanical** [104, 144, 296]. **Medical** [331]. **Member** [213]. **Memories** [96]. **Memory** [38, 57, 269, 326]. **Message** [191, 192, 255]. **Message-Passing** [255]. **Metadata** [154]. **Methodology** [89, 90]. **Methods** [198, 327]. **Microcomputer** [16]. **Microprocessor** [6, 87, 281]. **Microprocessor-Based** [6]. **Microsystem** [205]. **Mid** [196]. **Mid-1980s** [196]. **Migration** [62, 343]. **Mini** [164]. **Mini-Super** [164]. **Misconceptions** [263]. **MML** [87]. **Mobile** [315, 317]. **Mode** [241]. **Model** [118, 186–188, 233, 246, 321, 358]. **Model-Based** [186–188]. **Modeling** [93, 105, 161, 244, 250]. **Modular** [43]. **Monitoring** [46]. **Motion** [33, 234, 291].

**Motions** [292]. **MP** [279, 341].  
**Multicomputer** [138, 244].  
**Multicomputers** [255]. **Multilevel** [73].  
**Multimedia** [131, 156]. **Multiple**  
 [87, 222, 238, 239, 241–243, 264, 267].  
**multiple-domain** [264].  
**Multiple-Microprocessor** [87].  
**Multiple-Valued** [238, 239, 241–243, 267].  
**Multiplier** [241]. **Multiprocessing** [117].  
**Multiprocessor** [95, 114, 229, 249, 285].  
**Multiprocessors** [133, 227, 269].  
**Multisensor** [320]. **Multistage** [170].  
**Multivalued** [240]. **Myths** [257].

**NASA** [337]. **National** [262, 334–336].  
**Nature** [166]. **Naval** [338]. **Navigation**  
 [315–317]. **Nets** [232]. **Network** [3, 58, 63,  
 66, 75, 228, 233, 235, 236, 311, 350, 363].  
**Networks** [4, 21, 43, 44, 49, 74, 77, 92, 169–  
 171, 234, 237, 285]. **Neural**  
 [232, 233, 235–237, 319]. **News** [201]. **Next**  
 [263]. **Next-Generation** [263]. **No** [165].  
**Nonlinear** [319]. **Null** [179]. **Numbers** [27].

**OBE** [30]. **Object**  
 [104, 156, 183, 307, 342, 358].  
**Object-Oriented** [307, 342]. **Objects**  
 [33, 155]. **Occluded** [186]. **Occupancy**  
 [317]. **October** [193]. **Office** [30, 129]. **Offs**  
 [45, 277]. **Once** [247]. **Operating**  
 [57, 99, 139, 228]. **Operator** [143]. **Opinion**  
 [56]. **Opportunities** [210, 328]. **Optical**  
 [59, 119, 156, 171, 215, 247, 350].  
**Optimization** [243, 254, 286]. **Optimum**  
 [230]. **Ordering** [227]. **Organization** [45].  
**Organizing** [236]. **Oriented** [307, 342].  
**Overlapping** [112]. **Overview**  
 [11, 13, 198, 268].

**package** [5]. **Packet** [43]. **Paper** [145].  
**Papers** [209]. **Para** [150]. **Para-Functional**  
 [150]. **Paradigm** [83]. **Parallel**  
 [34, 48, 49, 94, 115, 116, 134, 147, 149, 169, 175,  
 214, 230, 327]. **Parallelism** [148, 167].

**PARET** [244]. **Part** [78]. **Partially** [186].  
**Partitioning** [157, 178]. **Parts**  
 [112, 186, 187]. **Passing** [255]. **Patrec** [97].  
**Pattern** [100, 232, 235, 236]. **PC** [339].  
**peace** [37]. **Perception** [317].  
**Performance**  
 [4, 91, 95, 123, 133, 138, 156, 251, 285, 347].  
**Persistent** [72]. **Perspective** [31, 353].  
**Perspectives** [15]. **philosophies** [277].  
**Pick** [292]. **Pick-and-Place** [292]. **PICT**  
 [101]. **Pictorial** [39–42, 360]. **Picture** [40].  
**Pipelining** [341]. **pivotal** [283]. **Place**  
 [292]. **Planetary** [314]. **Planning**  
 [142, 186, 291, 292, 296]. **Plausibility** [253].  
**Plausibility-Driven** [253]. **plea** [37]. **PNG**  
 [363, 364]. **Point** [2, 23–26]. **Poker** [94].  
**Portable** [363]. **Power** [143]. **Practical**  
 [55, 220]. **Precision** [282]. **Precompilation**  
 [36]. **Predictable** [320]. **Prediction**  
 [85, 185]. **Prediction-Based** [185].  
**Preliminary** [221]. **President** [191]. **Price**  
 [113, 159]. **Pride** [145]. **Principles** [153].  
**Problem** [13, 263]. **Problems** [117, 293].  
**procedures** [286]. **Process** [89, 343].  
**Processing** [19, 36, 41, 51, 71, 106, 147, 158,  
 169, 180, 218, 229, 230, 299, 356, 357].  
**Processor**  
 [35, 93, 113, 115, 135, 175, 182, 254].  
**Processors** [34, 173, 178, 196]. **Product**  
 [202]. **Production** [11, 141]. **Productivity**  
 [195]. **products** [203]. **Program**  
 [46, 54, 93, 121, 198, 218, 270].  
**Programmable** [243, 311]. **Programmer**  
 [268]. **Programming**  
 [28, 29, 72, 87, 94, 101, 120, 150, 167, 188, 216,  
 219, 220, 251, 257, 296, 348, 359]. **Programs**  
 [36, 115, 122, 342]. **project** [11, 110, 336].  
**PROLOG** [108]. **Properties** [275].  
**Proposals** [25]. **Proposed** [2, 16, 23, 24, 26].  
**Prospects** [257]. **Protocols** [350].  
**Prototypes** [309]. **Prototyping**  
 [297, 305, 306, 308, 310, 311]. **PSN** [81].  
**Publication** [224]. **Purpose** [1, 174, 281].

**QBE** [30]. **QBE/OBE** [30]. **Quality** [11]. **Quantum** [333]. **Query** [40, 299]. **Query-Processing** [299]. **Querying** [214]. **queue** [9].

**R&D** [262]. **RAM** [326]. **Random** [247]. **Random-Access** [247]. **Rapid** [305, 306, 308, 310]. **rate** [362]. **Reaching** [22]. **Reading** [127]. **Real** [67, 128, 230, 263, 320]. **Real-Time** [67, 128, 230, 263, 320]. **Recognition** [100, 112, 232, 235, 236, 358]. **Recognizing** [186]. **Recommendations** [344]. **Reconfiguration** [134]. **Recovery** [275, 325]. **Reduced** [254]. **Reduced-Introduction-Set** [254]. **Reducing** [269]. **Reduction** [95]. **Reduction-Based** [95]. **Reference** [118, 365]. **Refinement** [248]. **Relationships** [78]. **Relief** [103]. **Remote** [245]. **report** [221, 289, 352, 354]. **Representation** [79, 126, 183, 222, 272, 329, 330]. **Representations** [184]. **Representing** [80, 82]. **Research** [116, 252, 268, 295–298, 310, 328, 337, 338]. **Resistive** [234]. **retrospective** [340]. **Reuse** [325]. **Reusing** [137]. **Reviews** [202, 211]. **RISC** [65, 196]. **Rivers** [336]. **Robot** [69, 183, 185, 188, 292, 315–317]. **Robotic** [296, 322]. **Robotics** [290, 291, 294–298]. **Robustness** [293]. **Rochester** [47]. **Role** [130, 333]. **Routing** [92]. **Rover** [314]. **Rule** [141]. **Rule-Based** [141].

**Saxpy** [174]. **Scale** [15, 49]. **Schedule** [141]. **Scheduling** [324]. **Scheme** [32]. **Scheme-79** [32]. **science** [221, 289]. **Sciences** [332]. **Scientific** [15, 35, 220, 280, 328, 336, 337]. **SDI** [146]. **Seamless** [226]. **Search** [117]. **Second** [20, 56]. **Secure** [299]. **Segue** [274]. **Self** [7, 236]. **Self-Checking** [7]. **Self-Organizing** [236]. **Semantic** [77, 250]. **Semiconductor** [96]. **Semiconductors** [333]. **sequences** [362]. **Sequential** [302, 361]. **Sequoia** [229]. **Serious** [263]. **Server** [156]. **Set** [87, 254, 303]. **Sets** [124, 197, 329, 332]. **Shapes** [104]. **Shared** [269]. **Shared-Memory** [269]. **Shuffle** [170]. **Shuffle-Exchange** [170]. **Shuffles** [44]. **Signal** [51, 180, 230]. **silver** [165]. **Simulated** [95]. **Simulation** [8, 103, 123, 333]. **Single** [112, 303]. **Single-Stuck-Fault** [303]. **Size** [157]. **SLAPP** [175]. **Smalltalk** [122, 159]. **Snowbird** [289]. **Society** [191, 201, 213]. **Software** [61, 83, 121, 137, 165, 195, 217, 246, 249, 276, 283, 305, 306, 308, 344]. **Solid** [105]. **Some** [176, 198]. **Source** [231]. **Soviet** [260]. **Space** [33]. **Spatial** [360]. **Special** [1]. **Special-Purpose** [1]. **Specification** [360]. **spectrum** [353]. **Speed** [119, 230, 260, 341]. **Spherical** [184]. **Spiral** [246]. **Sprite** [228]. **Stack** [164]. **Standard** [2, 16, 23–26, 309]. **Standardization** [129]. **Standards** [130, 199]. **Star** [340]. **Static** [266]. **Status** [129]. **Steering** [179]. **Step** [178]. **Stepwise** [248]. **Storage** [4, 59–61, 118]. **Storming** [308]. **Strategic** [262, 283]. **Strategies** [85, 92, 134, 299]. **Strategy** [186]. **Structure** [80]. **Structured** [237, 248, 349]. **Structures** [42, 51, 105]. **Stuck** [303]. **Study** [214]. **Style** [342]. **Styles** [223]. **summary** [354]. **Super** [17, 164]. **Supercomputer** [259, 277, 279, 354]. **Supercomputers** [18, 20, 276]. **Supercomputing** [336]. **Supersystem** [181]. **Support** [89, 121, 274, 304]. **Surfaces** [69]. **Surrogate** [162]. **Survey** [46, 48, 120, 130, 194, 196, 252, 258, 323, 327, 352]. **Suspension** [318]. **Switching** [43]. **Symbolic** [149, 357]. **Synchronization** [8, 227, 275, 327]. **Synchronizing** [135]. **Synchronous** [350]. **Synergism** [168]. **System** [10, 16, 35, 57, 97, 103, 119, 131, 132, 139, 141–145, 166, 180, 184, 224, 228, 247, 249, 295, 302,

311, 322, 359]. **System/38** [142]. **Systems** [12, 17, 38–40, 42, 43, 52, 61, 76, 81, 86, 99, 114, 116, 118, 128, 145, 146, 168, 223, 225, 244, 248, 261, 263, 309, 310, 320, 351, 356]. **Systolic** [50, 157, 172, 174–181]. **Systolic/Cellular** [180].

**Table** [190]. **Tables** [266, 354]. **talk** [312]. **target** [85]. **Task** [19, 221, 292]. **Task-Level** [292]. **Taulbee** [258, 352]. **Taxonomic** [77]. **Taxonomy** [271]. **Technique** [91]. **Techniques** [64, 87, 120, 153, 177, 215]. **Technology** [83, 287, 345]. **Temporal** [151]. **terrain** [272]. **terrains** [316]. **Test** [300–302, 304]. **Test-Generation** [302]. **Testability** [6, 304]. **Testbed** [66–68]. **Texas** [193]. **TExnology** [339]. **Text** [106]. **Their** [130]. **TI** [280]. **Tightly** [229]. **Time** [67, 78, 128, 230, 263, 320]. **Titan** [259]. **Toast** [143]. **Tolerance** [177]. **Tolerant** [96, 229]. **Tools** [10, 84, 87, 166, 335]. **Top** [104]. **Top-Down** [104]. **Topology** [329]. **Trade** [45, 277]. **Trade-Offs** [45, 277]. **Traditional** [250]. **Transaction** [229]. **Transformations** [319]. **Translation** [45]. **Transport** [333]. **Turbulent** [330]. **Tutorial** [239, 267]. **Two** [112]. **Type** [78].

**U** [70]. **U-Interpreter** [70]. **Ubiquitous** [326]. **Underflow** [27]. **Union** [260]. **United** [176]. **Universal** [361]. **Unix** [10, 28, 58]. **Unix-Based** [58]. **unknown** [316]. **Update** [200, 354]. **USC** [298]. **use** [5]. **User** [22, 125, 136, 284, 309]. **Using** [8, 44, 83, 112, 122, 234, 270, 317, 321].

**Valued** [238, 239, 241–243, 267]. **variable** [362]. **VAX** [45, 57]. **VAX-11** [45]. **VAX/VMS** [57]. **Vector** [20, 251, 329, 341]. **Vehicle** [318]. **Verification** [107, 248, 252]. **Very** [49, 162]. **Very-Large-Scale** [49]. **VHSIC** [111]. **via** [362]. **Videotex** [21]. **Views** [136, 155]. **Virtual** [57]. **Vision** [69, 100, 183, 185, 322, 357, 359]. **Visual**

[82, 123, 140, 235, 345]. **Visualization** [121, 328, 331, 333–338]. **Visualizing** [332, 346, 347]. **Visually** [33]. **VLSI** [1, 65, 84, 88, 108, 135, 233, 240, 265, 300, 307, 349]. **VMS** [57]. **vs** [225, 251].

**Wang** [312]. **Wars** [37]. **Wavefront** [173]. **Were** [60]. **Whistle** [301]. **wide** [12]. **wide-band** [12]. **Windows** [152]. **Workbench** [301]. **Workstation** [123]. **world** [82]. **Write** [247]. **Write-Once** [247]. **Writing** [127].

**X** [279, 341]. **X-MP** [279, 341]. **Xerox** [340].

**Zeus** [109]. **ZS** [324]. **ZS-1** [324].

## References

Foster:1980:DSV

- [1] M. J. Foster and H. T. Kung. The design of special-purpose VLSI chips. *Computer*, 13(1):26–40, January 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Coonen:1980:IGP

- [2] Jerome T. Coonen. An implementation guide to a proposed standard for floating-point arithmetic. *Computer*, 13(1):68–79, January 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See errata in [24]. See [?, ?].

Thornton:1980:BNA

- [3] J. E. Thornton. Back-end network approaches. *Computer*, 13(2):10–17, February 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chlamatac:1980:PIB**

- [4] I. Chlamatac, W. R. Franta, P. C. Patton, B., and Wells. Performance issues in back-end storage networks. *Computer*, 13(2):18–31, February 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Butland:1980:EGD**

- [5] J. Butland and S. D. Butland. An easy-to-use graph drawing package. *Computer*, 13(2):69–80, February 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hayes:1980:TCM**

- [6] J. P. Hayes and E. J. McCluskey. Testability considerations in microprocessor-based design. *Computer*, 13(3):17–26, March 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Pradhan:1980:ECS**

- [7] D. K. Pradhan and J. J. Stiffler. Error-correcting codes and self-checking circuits. *Computer*, 13(3):27–37, March 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Peacock:1980:DSU**

- [8] K. Peacock, E. Manning, and J. Wong. Synchronization of distributed simulation using broadcast algorithms. *Computer*, 13(4):3–10, April 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Buzen:1980:MCQ**

- [9] Jeffrey P. Buzen and Peter J. Denning. Measuring and calculating queue length distributions. *Computer*, 13(4):

33–44, April 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Johnson:1980:LDT**

- [10] Steven C. Johnson. Language development tools on the Unix system. *Computer*, 13(8):16–24, August 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Leverett:1980:OPC**

- [11] Bruce W. Leverett, R. G. G. Cattell, S. O. Hobbs, J. M. Newcomer, A. H. Reiner, B. R. Schatz, and W. A. Wulf. An overview of the Production Quality Compiler-Compiler Project. *Computer*, 13(8):38–49, August 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Wilkes:1980:IWL**

- [12] M. V. Wilkes. The impact of wide-band local area communication systems on distributed computing. *Computer*, 13(9):22–25, September 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Isloor:1980:DPO**

- [13] S. S. Isloor and T. A. Marsland. The deadlock problem: An overview. *Computer*, 13(9):58–78, September 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Flynn:1980:DIA**

- [14] M. Flynn. Directions and issues in architecture and language. *Computer*, 13(10):5–22, October 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).



**Rodrigue:1980:PLS**

- [15] G. Rodrigue, E. D. Giroux, and M. Pratt. Perspectives on large-scale scientific computation. *Computer*, 13(10):65–80, October 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Boberg:1980:PMS**

- [16] R. W. Boberg et al. Proposed Microcomputer System 796 Bus Standard. *Computer*, 13(10):89–105, October 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Vick:1980:AAS**

- [17] C. R. Vick, S. P. Kartashev, and S. I. Kartashev. Adaptable architectures for super systems. *Computer*, 13(11):17–35, November 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Dennis:1980:DFS**

- [18] Jack B. Dennis. Data flow supercomputers. *Computer*, 13(11):48–56, November 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chu:1980:TAD**

- [19] W. W. Chu, L. J. Holloway, M. Lan, and K. Efe. Task allocation in distributed data processing. *Computer*, 13(11):57–69, November 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kozdrowicki:1980:SGV**

- [20] E. W. Kozdrowicki and Douglas J. Theis. Second generation of vector supercomputers. *Computer*, 13(11):71–83, November 1980. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ball:1980:VN**

- [21] A. J. S. Ball, G. V. Bochmann, and J. Gecsei. Videotex networks. *Computer*, 13(12):8–14, December 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Myers:1981:CGR**

- [22] W. Myers. Computer graphics: Reaching the user. *Computer*, 14(3):7–10, 14, 17, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stevenson:1981:PSB**

- [23] David Stevenson. A proposed standard for binary floating-point arithmetic. *Computer*, 14(3):51–62, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Coonen:1981:EIG**

- [24] Jerome T. Coonen. Errata: An Implementation Guide to a Proposed Standard for Floating Point Arithmetic. *Computer*, 14(3):62, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See [2, ?, ?].

**Cody:1981:APF**

- [25] William J. Cody, Jr. Analysis of proposals for the floating-point standard. *Computer*, 14(3):63–68, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hough:1981:API**

- [26] David Hough. Applications of the proposed IEEE-754 standard for floating

point arithmetic. *Computer*, 14(3):70–74, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Coonen:1981:UDN**

- [27] Jerome T. Coonen. Underflow and the denormalized numbers. *Computer*, 14(3):75–87, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kernighan:1981:UPE**

- [28] B. W. Kernighan and J. R. Mashey. The Unix programming environment. *Computer*, 14(4):12–24, April 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Teitelman:1981:IPE**

- [29] Warren Teitelman and Larry Masinter. The Interlisp programming environment. *Computer*, 14(4):25–33, April 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Zloof:1981:QOA**

- [30] M. M. Zloof. QBE/OBE: A language for office and business automation. *Computer*, 14(5):13–22, May 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stenning:1981:AEA**

- [31] V. Stenning, R. Froggatt, R. Gilbert, and E. Thomas. The Ada environment: A perspective. *Computer*, 14(6):26–36, June 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Sussman:1981:SLC**

- [32] Gerald Jay Sussman, Jack Holloway, Guy Lewis Steele, Jr., and Alan Bell. Scheme-79 — Lisp on a chip. *Computer*, 14(7):10–21, July 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Webb:1981:VIM**

- [33] Jon A. Webb and J. K. Aggarwal. Visually interpreting the motion of objects in space. *Computer*, 14(8):40–46, August 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cohler:1981:FPA**

- [34] E. U. Cohler and J. E. Storer. Functionally parallel architecture for array processors. *Computer*, 14(9):28–36, September 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Maron:1981:IAP**

- [35] N. Maron and T. A. Brengle. Integrating an array processor into a scientific computing system. *Computer*, 14(9):41–44, September 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brode:1981:PFPP**

- [36] B. Brode. Precompilation of Fortran programs to facilitate array processing. *Computer*, 14(9):46–51, September 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cohen:1981:HWP**

- [37] Danny Cohen. On Holy Wars and a plea for peace. *Computer*, 14(10):48–54, October 1981. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic). This is an entertaining account of the Big-Endian and Little-Endian problems of bit and byte ordering.

**Pohm:1981:CMS**

- [38] A. V. Pohm and T. A. Smay. Computer memory systems. *Computer*, 14(10):93–110, October 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chang:1981:PDB**

- [39] S. K. Chang and T. L. Kunii. Pictorial data base systems. *Computer*, 14(11):13–21, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chang:1981:PQL**

- [40] N. S. Chang and K. S. Fu. Picture query languages for pictorial database systems. *Computer*, 14(11):23–33, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Zobrist:1981:PIP**

- [41] A. L. Zobrist and G. Nagy. Pictorial information processing of LANDSAT data for geographic analysis. *Computer*, 14(11):34–41, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chock:1981:MDS**

- [42] Margaret Chock, Alfonso F. Cardenas, and Allen Klinger. Manipulating data structures in pictorial information systems. *Computer*, 14(11):43–50, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Dias:1981:PSI**

- [43] D. M. Dias and J. R. Jump. Packet switching interconnection networks for modular systems. *Computer*, 14(12):43–53, December 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chen:1981:INU**

- [44] P.-Y. Chen, D. H. Lawrie, P.-C. Yew, and D. A. Padua. Interconnection networks using shuffles. *Computer*, 14(12):55–63, December 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Satyanarayanan:1981:DTV**

- [45] M. Satyanarayanan and D. P. Bhandarkar. Design trade-offs in VAX-11 translation buffer organization. *Computer*, 14(12):103–111, December 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Plattner:1981:MPE**

- [46] B. Plattner and J. Nievergelt. Monitoring program execution: A survey. *Computer*, 16(11):76–93, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lantz:1982:RIG**

- [47] K. A. Lantz, K. D. Gradischnig, J. A. Feldman, R. F., and Rashid. Rochester's intelligent gateway. *Computer*, 11(10):54–68, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Haynes:1982:SHP**

- [48] L. S. Haynes, R. L. Lau, D. P. Siewiorek, and D. W. Mizel. A survey of highly

parallel computing. *Computer*, 15(1):9–24, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gottlieb:1982:NAV**

- [49] Allan Gottlieb and J. T. Schwartz. Networks and algorithms for very-large-scale parallel computation. *Computer*, 15(1):27–36, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kung:1982:WSA**

- [50] H. T. Kung. Why systolic architectures? *Computer*, 15(1):37–46, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ahmed:1982:HCC**

- [51] H. M. Ahmed, J. M. Delosme, and M. Morf. Highly concurrent computing structures for matrix arithmetic and signal processing. *Computer*, 15(1):65–82, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Agerwala:1982:DS**

- [52] T. Agerwala and Arvind. DataFlow systems. *Computer*, 15(2):10–30, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ackerman:1982:DFL**

- [53] W. B. Ackerman. Data flow languages. *Computer*, 15(2):15–25, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Davis:1982:DFP**

- [54] Alan L. Davis and Robert M. Keller. Data flow program graphs. *Computer*,

15(2):26–41, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Watson:1982:PDF**

- [55] I. Watson and J. Gurd. A practical data flow computer. *Computer*, 15(2):51–57, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gajski:1982:SOD**

- [56] D. D. Gajski, D. A. Padua, D. J. Kuck, and R. H. Kuhn. A second opinion on data flow machines and languages. *Computer*, 15(2):58–69, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Levy:1982:VMM**

- [57] H. M. Levy and P. H. Lipman. Virtual memory management in the VAX/VMS operating system. *Computer*, 15(3):35–41, March 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hwang:1982:ULC**

- [58] K. Hwang, W. J. Croft, G. H. Goble, B. W. Wah, F. A. Briggs, W. R. Simmons, and C. L. Coates. A Unix-Based local computer network with load balancing. *Computer*, 15(4):55–66, April 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kenville:1982:ODD**

- [59] Richard F. Kenville. Optical disk data storage. *Computer*, 15(7):21–25, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Copeland:1982:WIM**

- [60] George Copeland. What if mass storage were free? *Computer*, 15(7):27–35, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**OLear:1982:SCM**

- [61] B. T. O’Lear and J. H. Choy. Software considerations in mass storage systems. *Computer*, 15(7):36–44, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lawrie:1982:EAF**

- [62] D. H. Lawrie, J. M. Randal, and R. R. Barton. Experiments with automatic file migration. *Computer*, 15(7):45–55, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Shoch:1982:EEL**

- [63] John F. Shoch, Y. K. Dalal, David D. Redell, and Ronald C. Crane. Evolution of the Ethernet local computer network. *Computer*, 15(8):10–27, August 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Boral:1982:ADF**

- [64] H. Boral and D. J. DeWitt. Applying data flow techniques to data base machines. *Computer*, 15(8):57–63, August 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Reprinted in A. R. Hurson, L. L. Miller, and S. H. Pakzad, *Parallel Architectures for Database Systems*, IEEE Computer Society Press, Washington, DC, 1989.

**Patterson:1982:VR**

- [65] D. A. Patterson and C. H. Sequin. A VLSI RISC. *Computer*, 15(9):8–21,

September 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brayer:1982:TAD**

- [66] K. Brayer and V. Laffleur. A testbed approach to the design of a computer communication network. *Computer*, 15(10):14–23, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**McDonald:1982:FDT**

- [67] W. C. McDonald and R. W. Smith. A flexible distributed testbed for real-time applications. *Computer*, 15(10):25–39, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gehring:1982:CT**

- [68] E. F. Gehring, A. K. Jones, and Z. Z. Segall. The Cm\* testbed. *Computer*, 15(10):40–49, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hall:1982:MCS**

- [69] Ernest L. Hall, James K. B. Tio, Charles A. McPherson, and Firooz A. Sadjadi. Measuring curved surfaces for robot vision. *Computer*, 15(12):42–54, December 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Arvind:1982:U**

- [70] Arvind and Kim P. Gostelow. The U-Interpreter. *Computer*, 16(1):42–49, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fu:1983:ICA**

- [71] K. Hwang and K. Fu. Integrated computer architectures for image processing and database management. *Computer*, 16(1):51–60, January 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Atkinson:1983:APP**

- [72] M. P. Atkinson, P. J. Bailey, K. J. Chisholm, P. W. Cockshott, and R. Morrison. An approach to persistent programming. *Computer*, 16(4):360–365, April 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Benhamou:1983:MIG**

- [73] Eric Benhamou and Judy Estrin. Multilevel internetworking gateways: Architecture and applications. *Computer*, 16(9):27–34, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hinden:1983:DII**

- [74] R. Hinden, J. Haverty, and A. Sheltzer. The DARPA Internet: Interconnecting heterogeneous computer networks with gateways. *Computer*, 16(9):38–48, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). papers box.

**Thornton:1983:HNL**

- [75] James E. Thornton and Gary S. Christensen. Hyperchannel network links. *Computer*, 16(9):50–54, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Redell:1983:IEM**

- [76] David D. Redell and James E. White. Interconnecting electronic mail systems. *Computer*, 16(9):55–63, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brachman:1983:WII**

- [77] Ronald J. Brachman. What IS-A is and isn't: An analysis of taxonomic links in semantic networks. *Computer*, 16(10):30–36, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Schubert:1983:DTP**

- [78] Lenhart K. Schubert, Mary Angela Palaskaris, and Jay Taugher. Determining type, part, color, and time relationships. *Computer*, 16(10):53–60, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Special Issue on Knowledge Representation.

**Brachman:1983:KAF**

- [79] Ronald J. Brachman, Richard E. Fikes, and Hector J. Levesque. KRYPTON: A functional approach to knowledge representation. *Computer*, 16(10):67–73, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Special Issue on Knowledge Representation.

**Davis:1983:RSB**

- [80] Randall Davis and Howard Shrobe. Representing structure and behavior of digital hardware. *Computer*, 16(10):75–81, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Mylopoulos:1983:BKS**

- [81] John Mylopoulos, Tetsutaro Shibahara, and John K. Tsotsos. Building knowledge-based systems: The PSN experience. *Computer*, 16(10):83–89, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Havens:1983:RKV**

- [82] W. Havens and A. Mackworth. Representing knowledge of the visual world. *Computer*, 16(10):90–96, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Balzer:1983:STU**

- [83] Robert Balzer, Thomas E. Cheatham, Jr., and Cordell Green. Software technology in the 1990s: Using a new paradigm. *Computer*, 16(11):39–45, November 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gajski:1983:GEI**

- [84] D. Gajski and R. Kuhn. Guest Editors' introduction: New VLSI tools. *Computer*, 16(12):11–14, December 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lee:1984:BPS**

- [85] J. K. F. Lee and A. J. Smith. Branch prediction strategies and branch target buffer design. *Computer*, 17(1):6–22, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gligor:1984:IHD**

- [86] V. D. Gligor and G. L. Luckenbaugh. Interconnecting heterogeneous database management systems. *Computer*, 17(1):33–43, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Boari:1984:MPT**

- [87] Aurelio Boari, Stefano Crespi-Reghizzi, Alberto Dapra, Francesco Maderna, and Antonio Natali. Multiple-microprocessor programming techniques: MML, a new set of tools. *Computer*, 17(1):47–59, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Grinberg:1984:CVA**

- [88] J. Grinberg, G. R. Nudd, and R. D. Etchells. A cellular VLSI architecture. *Computer*, 17(1):69–81, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Weide:1984:PCI**

- [89] B. W. Weide, M. E. Brown, J. Ramanathan, and K. Schwan. Process control: Integration and design methodology support. *Computer*, 17(2):27–32, February 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Roussopoulos:1984:AMD**

- [90] N. Roussopoulos and R. T. Yeh. An adaptable methodology for database design. *Computer*, 17(5):64–80, May 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Welch:1984:THP**

- [91] Terry A. Welch. A technique for high-performance data compression. *Computer*, 17(6):8–19, June 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hsieh:1984:RSC**

- [92] W. N. Hsieh and I. Gitman. Routing strategies in computer networks. *Computer*, 17(6):46–56, June 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**MacDougall:1984:IPP**

- [93] Myron MacDougall. Instruction-level program and processor modeling. *Computer*, 17(7):14–24, July 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Snyder:1984:PPP**

- [94] L. Snyder. Parallel programming and the Poker programming environment. *Computer*, 17(7):27–36, July 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Keller:1984:SPR**

- [95] R. M. Keller and F. C. H. Lin. Simulated performance of a reduction-based multiprocessor. *Computer*, 17(7):70–82, July 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Sarrazin:1984:FSM**

- [96] D. B. Sarrazin and M. Malek. Fault-tolerant semiconductor memories. *Computer*, 17(8):49–56, August 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Mittal:1984:PAK**

- [97] S. Mittal, B. Chandrasekaran, and J. Sticklen. Patrec: A knowledge-directed database for a diagnostic expert system. *Computer*, 17(9):51–58, September 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**MacHover:1984:ICG**

- [98] C. MacHover and W. Myers. Interactive computer graphics. *Computer*, 17(10):145–161, October 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brown:1984:AOS**

- [99] R. L. Brown and P. J. Denning. Advanced operating systems. *Computer*, 17(10):173–190, October 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fu:1984:PRC**

- [100] K. S. Fu and A. Rosenfeld. Pattern recognition and computer vision. *Computer*, 17(10):274–282, October 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Glinert:1984:PIG**

- [101] E. P. Glinert and S. L. Tanimoto. PICT: An interactive graphical programming environment. *Computer*, 17(11):7–25, November 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Shemer:1984:GDC**

- [102] J. Shemer and P. M. Neches. The genesis of a database computer. *Computer*, 17(11):42–??, November 1984. CODEN



CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Laurent:1984:GAG**

- [103] D. Laurent and S. Motet. GEOMATIC: A 3-D graphic relief simulation system. *Computer*, 17(12):25–30, December 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Yoshiura:1984:TCM**

- [104] H. Yoshiura, K. Fujimura, and T. L. Kunii. Top-down construction of 3-D mechanical object shapes from engineering drawings. *Computer*, 17(12):32–40, December 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Woo:1984:ISM**

- [105] T. C. Woo. Interfacing solid modeling to CAD and CAM: Data structures and algorithms for decomposing a solid. *Computer*, 17(12):44–49, December 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chu:1985:CKT**

- [106] Y. Chu. Chinese/Kanji text and data processing. *Computer*, 18(1):10–66, January 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Maruyama:1985:HV**

- [107] F. Maruyama and M. Fujita. Hardware verification. *Computer*, 18(2):22–32, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). U. S. Copyright Clearance Center Code: 0018-9162/85/0200-0022\$01.00.

**Suzuki:1985:CPE**

- [108] N. Suzuki. Concurrent PROLOG as an efficient VLSI design language. *Computer*, 18(2):33–40, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). U. S. Copyright Clearance Center Code: 0018-9162/85/0200-0033\$01.00.

**Lieberherr:1985:ZAL**

- [109] K. J. Lieberherr and S. M. German. Zeus: A language for expressing algorithms in hardware. *Computer*, 18(2):55–65, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Zeus.

**Piloty:1985:CPC**

- [110] R. Piloty and D. Borriane. The CONLAN project: concepts, implementations and applications. *Computer*, 18(2):81–92, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Shahdad:1985:VHD**

- [111] M. Shahdad, R. Lipsett, F. E. Marschner, K. Sheehan, H. Cohen, R. Waxman, and D. Ackley. VHSIC hardware description language. *Computer*, 18(2):94–103, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). VHDL.

**Berman:1985:CRT**

- [112] S. Berman, P. Parikh, and C. S. G. Lee. Computer recognition of two overlapping parts using a single camera. *Computer*, 18(3):70–80, March 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1985:NCA**

- [113] Anonymous. New configuration added, price cut, for processor. *Computer*, 18(5):122-??, May 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gajski:1985:EIM**

- [114] Daniel D. Gajski and Jih-Kwon Peir. Essential issues in multiprocessor systems. *Computer*, 18(6):9-27, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Schneck:1985:PPP**

- [115] P. B. Schneck, D. Austin, S. L. Squires, J. Lehmann, D. Mizell, and K. Wallgren. Parallel processor programs in the Federal Government. *Computer*, 18(6):43-56, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Murakami:1985:RPM**

- [116] K. Murakami, T. Kakuta, R. Onai, and N. Ito. Research on parallel machine architecture for fifth-generation computer systems. *Computer*, 18(6):76-92, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Month June.

**Wah:1985:MCS**

- [117] Benjamin W. Wah, G. J. Li, and C. F. Yu. Multiprocessing of combinatorial search problems. *Computer*, 18(6):93-108, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Miller:1985:TRM**

- [118] S. W. Miller and M. W. Collins. Toward a reference model of mass storage systems. *Computer*, 18(7):9-22, July 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ammon:1985:HLJ**

- [119] G. Ammon, J. Calabria, and D. Thomas. A high-speed, large-capacity, jukebox optical disk system. *Computer*, 18(7):36-46, July 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Raeder:1985:SCG**

- [120] G. Raeder. A survey of current graphical programming techniques. *Computer*, 18(8):11-25, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brown:1985:PVG**

- [121] G. P. Brown, R. T. Carling, C. F. Herot, D. A. Kramlich, and P. Souza. Program visualization: Graphical support for software development. *Computer*, 18(8):27-35, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**London:1985:APU**

- [122] R. L. London and R. A. Duisberg. Animating programs using Smalltalk. *Computer*, 18(8):61-71, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Melamed:1985:VSP**

- [123] B. Melamed and R. J. T. Morris. Visual simulation: The performance analysis workstation. *Computer*, 18(8):87-

94, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Colwell:1985:ISB**

- [124] Robert P. Colwell, Charles Y. Hitchcock, III, E. Douglas Jensen, H. M. Brinkley Sprunt, and Charles P. Kollar. Instruction sets and beyond: Computers, complexity, and controversy. *Computer*, 18(9):8–19, September 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Coutaz:1985:AUI**

- [125] Joëlle Coutaz. Abstractions for user interface design. *Computer*, 18(9):21–34, September 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hartzband:1985:EKR**

- [126] D. J. Hartzband and F. J. Maryanski. Enhancing knowledge representation in engineering databases. *Computer*, 18(9):39–??, September 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Yankelovich:1985:RWE**

- [127] Nicole Yankelovich, Norman Meyrowitz, and Andries van Dam. Reading and writing the electronic book. *Computer*, 18(10):15–30, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Sarin:1985:CRC**

- [128] S. Sarin and I. Greif. Computer-based real-time conferencing systems. *Computer*, 18(10):33–45, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Horak:1985:ODA**

- [129] Wolfgang Horak. Office Document Architecture and Office Document Interchange formats: Current status of international standardization. *Computer*, 18(10):50–60, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bono:1985:SGS**

- [130] Peter R. Bono. A survey of graphics standards and their role in information interchange. *Computer*, 18(10):63–75, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Reynolds:1985:DEM**

- [131] J. K. Reynolds, J. B. Postel, A. R. Katz, G. G. Finn, and A. L. DeSchon. The DARPA experimental multimedia mail system. *Computer*, 18(10):82–91, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Sakata:1985:DIM**

- [132] S. Sakata and T. Ueda. A distributed interoffice mail system. *Computer*, 18(10):106–116, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Carlson:1985:APD**

- [133] W. W. Carlson and K. Hwang. Algorithmic performance of dataflow multiprocessors. *Computer*, 18(12):30–40, December 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Yalamanchili:1985:RSP**

- [134] S. Yalamanchili and J. K. Aggarwal. Reconfiguration strategies for parallel architectures. *Computer*, 18(12):44–61, December 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fisher:1985:SLV**

- [135] A. L. Fisher and H. T. Kung. Synchronizing large VLSI processor arrays. *Computer*, C-34(8):734–740, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Navathe:1986:IUV**

- [136] S. Navathe, R. Elmasri, and J. Larson. Integrating user views in database design. *Computer*, 19(1):50–62, January 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Goguen:1986:RIS**

- [137] Joseph Goguen. Reusing and interconnecting software components. *Computer*, 19(2):16–28, February 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Reprinted in *Tutorial: Software Reusability*, Peter Freeman, editor, IEEE Computer Society, 1987, pages 251–263, and in *Domain Analysis and Software Systems Modelling*, Ruben Prieto-Diaz and Guillermo Arango, editors, IEEE Computer Society, 1991, pages 125–137.

**Agrawal:1986:EPM**

- [138] D. P. Agrawal, V. K. Janakiram, and G. C. Pathak. Evaluating the performance of multicomputer configurations.

*Computer*, 19(5):23–37, May 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fisher:1986:IDD**

- [139] D. A. Fisher and R. M. Weatherly. Issues in the design of a distributed operating system for Ada. *Computer*, 19(5):38–47, May 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Larson:1986:VAB**

- [140] James A. Larson. A visual approach to browsing in a database environment. *Computer*, 19(6):62–71, June 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bruno:1986:RSS**

- [141] G. Bruno, A. Elia, and P. Laface. A rule-based system to schedule production. *Computer*, 19(7):32–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stroebel:1986:CPE**

- [142] G. J. Stroebel, R. D. Baxter, and M. J. Denney. A capacity planning expert system for IBM System/38. *Computer*, 19(7):42–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Talukdar:1986:TPS**

- [143] S. N. Talukdar, E. Cardozo, and L. V. Leao. Toast: The power system operator's assistant. *Computer*, 19(7):53–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brown:1986:KCM**

- [144] David C. Brown and B. Chandrasekaran. Knowledge and control for a mechanical design expert system. *Computer*, 19(7):92–100, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Mittal:1986:PES**

- [145] S. Mittal, C. L. Dym, and M. Morjaria. Pride: An expert system for the design of paper handling systems. *Computer*, 19(7):102–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chien:1986:ESS**

- [146] Y.-T. Chien and J. Liebowitz. Expert systems in the SDI environment. *Computer*, 19(7):115–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Mundie:1986:PPA**

- [147] D. A. Mundie and D. A. Fisher. Parallel processing in Ada. *Computer*, 19(8):20–25, August 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ahuja:1986:DPL**

- [148] Sudhir Ahuja, Nicholas Carriero, and David Gelernter. Domesticating parallelism: Linda and friends. *Computer*, 19(8):26–34, August 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Halstead:1986:PSC**

- [149] R. H. Halstead. Parallel symbolic computing. *Computer*, 19(8):35–43, August

1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hudak:1986:PP**

- [150] P. R. Hudak. Para-functional programming. *Computer*, 19(8):60–70, August 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Snodgrass:1986:TD**

- [151] R. T. Snodgrass and I. Ahn. Temporal databases. *Computer*, 19(9):35–42, September 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Myers:1986:CEI**

- [152] B. A. Myers. A complete and efficient implementation of covered windows. *Computer*, 19(9):57–67, September 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Roussopoulos:1986:PTD**

- [153] N. Roussopoulos and H. Kang. Principles and techniques in the design of ADMS. *Computer*, 19(12):19–25, December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Mark:1986:MM**

- [154] L. Mark and N. Roussopoulos. Metadata management. *Computer*, 19(12):26–36, December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Wiederhold:1986:VOD**

- [155] G. Wiederhold. Views, objects, and databases. *Computer*, 19(12):37–44,

December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Christodoulakis:1986:DPC**

- [156] S. Christodoulakis and C. Faloutsos. Design and performance considerations for an optical disk-based, multimedia object server. *Computer*, 19(12):45–56, December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Moldovan:1986:PMA**

- [157] D. I. Moldovan and J. A. B. Fortes. Partitioning and mapping algorithms into fixed-size systolic arrays. *Computer*, C-35(1):1–12, January 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hwang:1987:CAA**

- [158] K. Hwang, J. Ghosh, and R. Chowkanyun. Computer architectures for artificial intelligence processing. *Computer*, 20(1):19–27, January 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ungar:1987:WPS**

- [159] D. Ungar and D. Patterson. What price Smalltalk? *Computer*, 20(1):67–74, January 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fahlman:1987:CAA**

- [160] S. E. Fahlman and Geoffrey E. Hinton. Connectionist architectures for artificial intelligence. *Computer*, 20(1):100–109, January 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ketabchi:1987:MMC**

- [161] M. A. Ketabchi and V. Berzins. Modeling and managing CAD databases. *Computer*, 20(2):93–102, February 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Berra:1987:CAS**

- [162] P. B. Berra, Soon M. Chung, and Nabil I. Hachem. Computer architecture for a surrogate file to a very large data/knowledge base. *Computer*, 20(3):25–32, March 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Pleszkun:1987:ALM**

- [163] A. R. Pleszkun and M. J. Thazhuthaveetil. The architecture of LISP machines. *Computer*, 20(3):35–44, March 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Dongarra:1986:HDM**

- [164] J. Dongarra. How do the ‘minisupers’ stack up? *Computer*, 19(3):93, 100, March 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). URL <http://www.netlib.org/utk/people/JackDongarra/PAPERS/How-Do-the-Minisupers-Stack-Up.pdf>.

**Brooks:1987:NSB**

- [165] Frederick P. Brooks, Jr. No silver bullet: essence and accidents of software engineering. *Computer*, 20(4):10–19, April 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gevarter:1987:NEC**

- [166] W. B. Gevarter. The nature and evaluation of commercial expert system building tools. *Computer*, 20(5):24–41, May 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Karp:1987:PP**

- [167] Alan H. Karp. Programming for parallelism. *Computer*, 20(5):43–57, May 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Milutinovic:1987:ACS**

- [168] V. Milutinovic, D. Fura, W. Helbig, and J. Linn. Architecture/compiler synergism in GaAs computer systems. *Computer*, 20(5):72–93, May 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bhuyan:1987:GEI**

- [169] L. N. Bhuyan. Guest Editor's introduction: Interconnection networks for parallel and distributed processing. *Computer*, 20(6):9–13, June 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kumar:1987:ASM**

- [170] Vijay P. Kumar and Sudhakar M. Reddy. Augmented shuffle-exchange multistage interconnection networks. *Computer*, 20(6):30–40, June 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Varma:1987:OCN**

- [171] A. Varma, A. A. Sawchuk, C. S. Raghavendra, and B. K. Jenkins. Optical crossbar networks. *Computer*, 20(6):50–60, June 1987. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fortes:1987:SAC**

- [172] J. A. B. Fortes and B. W. Wah. Systolic arrays — from concept to implementation. *Computer*, 20(7):12–17, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kung:1987:WAP**

- [173] S. Y. Kung, S. N. Lo, and J. N. Hwang. Wavefront array processors — concept to implementation. *Computer*, 20(7):18–34, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Foulser:1987:SMA**

- [174] D. E. Foulser and R. Schreiber. The Saxpy Matrix-1: A general-purpose systolic computer. *Computer*, 20(7):35–44, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Drake:1987:SAS**

- [175] B. L. Drake, F. T. Luk, J. M. Speiser, and J. J. Symanski. SLAPP: A systolic linear algebra parallel processor. *Computer*, 20(7):45–50, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**McCanny:1987:SSA**

- [176] J. V. McCanny and J. G. McWhirter. Some systolic array developments in the united kingdom. *Computer*, 20(7):51–64, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Abraham:1987:FTT**

- [177] J. A. Abraham, P. Banerjee, C. Chen, W. K. Fuchs, S. Y. Kuo, and A. L. N. Reddy. Fault tolerance techniques for systolic arrays. *Computer*, 20(7):65–76, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Navarro:1987:PES**

- [178] J. J. Navarro, J. M. Llaberia, and M. Valero. Partitioning: An essential step in mapping algorithms into systolic array processors. *Computer*, 20(7):77–90, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hein:1987:DGS**

- [179] C. E. Hein, R. M. Zieger, and J. A. Urbano. The design of a GaAs systolic array for an adaptive null steering beamforming controller. *Computer*, 20(7):92–93, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Nash:1987:SCS**

- [180] J. G. Nash, K. W. Przytula, and S. Hansen. The systolic/cellular system for signal processing. *Computer*, 20(7):96–97, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lin:1987:ISA**

- [181] W. T. Lin, C. Y. Chin, and C. Y. Ho. Integrating systolic arrays into a super-system. *Computer*, 20(7):100–101, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Koren:1987:CID**

- [182] Israel Koren. The concept and implementation of data-driven processor arrays. *Computer*, 20(7):102–103, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bhanu:1987:COR**

- [183] Bir Bhanu and Chih-Cheng Ho. CAD-based 3D object representation for robot vision. *Computer*, 20(8):19–35, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Roach:1987:CSB**

- [184] John W. Roach, Praveen K. Paripati, and Jeffrey S. Wright. A CAD system based on spherical dual representations. *Computer*, 20(8):37–44, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Shneier:1987:PBV**

- [185] Michael O. Shneier, Ronald Lumia, and Martin Herman. Prediction-based vision for robot control. *Computer*, 20(8):46–55, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Horaud:1987:MSP**

- [186] Radu Horaud and Thomas Skordas. Model-based strategy planning for recognizing partially occluded parts. *Computer*, 20(8):58–65, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gunnarsson:1987:CML**

- [187] Kristjan T. Gunnarsson and Friedrich B. Prinz. CAD model-based localization of parts in manufacturing. *Computer*, 20



(8):66–74, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stevenson:1987:MPC**

- [188] Charles N. Stevenson. Model-based programming and control of robot manipulators. *Computer*, 20(8):76–84, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:FC**

- [189] Anonymous. [front cover]. *Computer*, 20(9):c1–c2, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:TC**

- [190] Anonymous. Table of contents. *Computer*, 20(9):2–3, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Russo:1987:CSP**

- [191] R. Russo and M. Smith. Computer Society President’s message. *Computer*, 20(9):6–7, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Shriver:1987:ECM**

- [192] B. D. Shriver. Editor-in-Chief’s message. *Computer*, 20(9):10, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:FJC**

- [193] Anonymous. The 1987 Fall Joint Computer Conference Infomart — Dallas, Texas, October 25–29, 1987. *Computer*, 20(9):12–15, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Conklin:1987:HIS**

- [194] Jeff Conklin. Hypertext: An introduction and survey. *Computer*, 20(9):17–41, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Boehm:1987:ISP**

- [195] Boehm. Improving software productivity. *Computer*, 20(9):43–57, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gimarc:1987:SRP**

- [196] C. E. Gimarc and V. M. Milutinovic. A survey of RISC processors and computers of the mid-1980s. *Computer*, 20(9):59–69, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Flynn:1987:NCM**

- [197] M. J. Flynn, C. L. Mitchell, and J. M. Mulder. And now a case for more complex instruction sets. *Computer*, 20(9):71–83, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hoare:1987:OSF**

- [198] C. A. R. Hoare. An overview of some formal methods for program design. *Computer*, 20(9):85–91, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:S**

- [199] Anonymous. Standards. *Computer*, 20(9):94–97, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:U**

- [200] Anonymous. Update. *Computer*, 20(9): 98–99, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:CSN**

- [201] Anonymous. Computer Society news. *Computer*, 20(9):99–102, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:NPR**

- [202] Anonymous. New product reviews. *Computer*, 20(9):103–106, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:NP**

- [203] Anonymous. New products. *Computer*, 20(9):107–113, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:IA**

- [204] Anonymous. IC announcements. *Computer*, 20(9):114, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:MA**

- [205] Anonymous. Microsystem announcements. *Computer*, 20(9):115, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:IIC**

- [206] Anonymous. IEEE International Conference on Computer-Aided Design. *Computer*, 20(9):116–117, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:Ca**

- [207] Anonymous. Conferences. *Computer*, 20(9):118–119, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:Cb**

- [208] Anonymous. Calendar. *Computer*, 20(9):119–120, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:CP**

- [209] Anonymous. Call for papers. *Computer*, 20(9):121–122, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:CO**

- [210] Anonymous. Career opportunities. *Computer*, 20(9):122–123, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:BR**

- [211] Anonymous. Book reviews. *Computer*, 20(9):124–126, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:NL**

- [212] Anonymous. New literature. *Computer*, 20(9):127, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1987:CSM**

- [213] Anonymous. The Computer Society: a member society of the Institute of Electrical and Electronics Engineers, Inc. *Computer*, 20(9):129, September 1987.

CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stone:1987:PQL**

- [214] Harold S. Stone. Parallel querying of large databases: A case study. *Computer*, 20(10):11–21, October 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Berra:1987:OTD**

- [215] P. B. Berra and N. B. Troullinos. Optical techniques and data/knowledge base machines. *Computer*, 20(10):59–70, October 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Henderson:1987:IDP**

- [216] P. B. Henderson and D. Notkin. Integrated design and programming environments. *Computer*, 20(11):12–16, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Dart:1987:SDE**

- [217] S. A. Dart, R. J. Ellison, P. H. Feiler, and N. A. Habermann. Software development environments. *Computer*, 20(11):18–28, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Reps:1987:LPP**

- [218] T. Reps and T. Teitelbaum. Language processing in program editors. *Computer*, 20(11):29–40, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Goguen:1987:FPE**

- [219] Joseph Goguen and Mark Moriconi. Formalization in programming environments. *Computer*, 20(11):55–64, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Carle:1987:PES**

- [220] Alan Carle, Keith D. Cooper, Robert T. Hood, Ken Kennedy, Linda Torczon, and Scott K. Warren. A practical environment for scientific programming. *Computer*, 20(11):75–89, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Denning:1988:CDP**

- [221] P. J. Denning, D. E. Comer, D. Gries, M. C. Mulder, A. Tucker, A. J. Turner, and P. R. Young. Computing as a discipline: Preliminary report of the ACM Task Force on the Core of Computer Science. *Computer*, 20(1):41, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See also final report [288].

**Chen:1988:MRD**

- [222] P. Chen and M. A. Harrison. Multiple representation document development. *Computer*, 21(1):15–31, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Johnson:1988:SDE**

- [223] J. Johnson and R. J. Beach. Styles in document editing systems. *Computer*, 21(1):32–47, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Schlichter:1988:FAP**

- [224] J. H. Schlichter and L. J. Miller. FolioPub: A publication management system. *Computer*, 21(1):61–69, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Marchionini:1988:FFV**

- [225] G. Marchionini and B. Shneiderman. Finding facts vs. browsing knowledge in hypertext systems. *Computer*, 21(1):70–80, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Yankelovich:1988:ICC**

- [226] Nicole Yankelovich, Bernard Hann, Norman Meyrowitz, and S. M. Drucker. Intermedia: The concept and the construction of a seamless information environment. *Computer*, 21(1):81–97, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Dubois:1988:SCE**

- [227] Michel Dubois, Christoph Scheurich, and Fayé A. Briggs. Synchronization, coherence, and event ordering in multiprocessors. *Computer*, 21(2):9–21, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ousterhout:1988:SNO**

- [228] John K. Ousterhout, A. R. Chersonon, Fred Douglass, Michael N. Nelson, and Brent B. Welch. The Sprite network operating system. *Computer*, 21(2):23–36, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bernstein:1988:SAF**

- [229] P. A. Bernstein. Sequoia: A fault-tolerant tightly coupled multiprocessor for transaction processing. *Computer*, 21(2):37–45, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lang:1988:OPA**

- [230] Gordon R. Lang, Moez Dharssi, Fred M. Longstaff, Philip S. Longstaff, Peter A. S. Metford, and Malcolm T. Rimmer. An optimum parallel architecture for high-speed real-time digital signal processing. *Computer*, 21(2):47–57, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Moffett:1988:SAC**

- [231] Jonathan D. Moffett and Morris S. Slocman. The source of authority for commercial access control. *Computer*, 21(2):59–69, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Widrow:1988:NNA**

- [232] B. Widrow and R. Winter. Neural nets for adaptive filtering and adaptive pattern recognition. *Computer*, 21(3):25–39, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Graf:1988:VIN**

- [233] Hans P. Graf, Lawrence D. Jackel, and Wayne E. Hubbard. VLSI implementation of a neural network model. *Computer*, 21(3):41–49, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hutchinson:1988:CMU**

- [234] James Hutchinson, Christof Koch, Jin Luo, and Carver Mead. Computing motion using analog and binary resistive networks. *Computer*, 21(3):52–63, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Fukushima:1988:NNF**

- [235] Kunihiko Fukushima. Neural network for visual pattern recognition. *Computer*, 21(3):65–75, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Carpenter:1988:AAP**

- [236] Gail A. Carpenter and Stephen Grossberg. The ART of adaptive pattern recognition by a self-organizing neural network. *Computer*, 21(3):77–88, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Feldmann:1988:CSN**

- [237] Jerome A. Feldmann, Mark A. Fanty, and Nigel H. Goddard. Computing with structured neural networks. *Computer*, 21(3):91–103, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Butler:1988:MLG**

- [238] J. T. Butler. Multiple-valued logic: Guest Editor's introduction and bibliography. *Computer*, 21(4):13–??, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Smith:1988:MLA**

- [239] K. C. Smith. Multiple-valued logic: A tutorial and appreciation. *Computer*,

21(4):17–27, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Etiemble:1988:CBM**

- [240] D. Etiemble and M. Israel. Comparison of binary and multivalued ICs according to VLSI criteria. *Computer*, 21(4):28–42, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kameyama:1988:MCM**

- [241] M. Kameyama, S. Kawahito, and T. Higuchi. A multiplier chip with multiple-valued bidirectional current-mode logic circuits. *Computer*, 21(4):43–57, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Butler:1988:MCC**

- [242] J. T. Butler and H. G. Kerkhoff. Multiple-valued CCD circuits. *Computer*, 21(4):58–70, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Sasao:1988:MLO**

- [243] T. Sasao. Multiple-valued logic and optimization of programmable logic arrays. *Computer*, 21(4):71–82, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Nichols:1988:MMS**

- [244] Kathleen M. Nichols and John T. Edmark. Modeling multicomputer systems with PARET. *Computer*, 21(5):39–48, May 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bershad:1988:RCF**

- [245] Brian N. Bershad and Henry M. Levy. A remote computation facility for a heterogeneous environment. *Computer*, 21(5):50–60, May 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Boehm:1988:SMS**

- [246] Barry W. Boehm. A spiral model of software development and enhancement. *Computer*, 21(5):61–72, May 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gait:1988:OFC**

- [247] Jason Gait. The optical file cabinet: A random-access file system for write-once optical disks. *Computer*, 21(6):11–22, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Mills:1988:SRV**

- [248] H. D. Mills. Stepwise refinement and verification in box-structured systems. *Computer*, 21(6):23–37, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Rayfield:1988:SAS**

- [249] J. T. Rayfield and H. F. Silverman. System and application software for the Armstrong multiprocessor. *Computer*, 21(6):38–52, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Potter:1988:TSH**

- [250] Walter D. Potter and Robert P. Trueblood. Traditional, semantic, and hypersemantic approaches to data modeling.

*Computer*, 21(6):53–63, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Liu:1988:PVF**

- [251] Bowen Liu and Nelson Strother. Programming in VS Fortran on the IBM 3090 for maximum vector performance. *Computer*, 21(6):65–77, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Camurati:1988:FVH**

- [252] P. Camurati and P. Prinetto. Formal verification of hardware correctness: Introduction and survey of current research. *Computer*, 21(7):8–20, July 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hooton:1988:EPD**

- [253] A. R. Hooton, U. Agueero, and S. Dasgupta. An exercise in plausibility-driven design. *Computer*, 21(7):21–33, July 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Steenkiste:1988:LRP**

- [254] P. Steenkiste and J. Hennessy. Lisp on a reduced-introduction-set processor: Characterization and optimization. *Computer*, 21(7):34–46, July 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Athas:1988:MMP**

- [255] William C. Athas and Charles L. Seitz. Multicomputers: Message-passing concurrent computers. *Computer*, 21(8):9–24, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Tucker:1988: AAC**

- [256] Lewis W. Tucker and George G. Robertson. Architecture and applications of the Connection Machine. *Computer*, 21(8):26–38, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Rich:1988: APM**

- [257] Charles Rich and Richard C. Waters. Automatic programming: Myths and prospects. *Computer*, 21(8):40–51, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gries:1988: TS**

- [258] David Gries and Dorothy Marsh. The 1986–1987 Taulbee Survey. *Computer*, 21(8):53–63, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Diede:1988: TGS**

- [259] Tom Diede, Carl F. Hagenmaier, Glen S. Miranker, Jonathan J. Rubinstein, and William S. Worley, Jr. The Titan Graphics Supercomputer architecture. *Computer*, 21(9):13–28, 30, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Wolcott:1988: HCS**

- [260] Peter Wolcott and Seymour E. Goodman. High-speed computers of the Soviet Union. *Computer*, 21(9):32–41, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Leung:1988: FCE**

- [261] K. S. Leung and W. Lam. Fuzzy concepts in expert systems. *Computer*, 21(9):43–56, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Myers:1988: NCS**

- [262] W. Myers and M. Potes. National Conference on Strategic Management of R&D. *Computer*, 21(9):58–67, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stankovic:1988: MAR**

- [263] J. A. Stankovic. Misconceptions about real-time computing — A serious problem for next-generation systems. *Computer*, 21(10):10–19, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Comment 1 by schlenk, Mon Dec 12 13:13:04 1988 An interesting outlook on real-time systems that are integrated into a programming environment is given. The author shows why ADA tasks are not sufficient (a high priority task has to wait for a lower priority task) and suggests an integrated approach: Time management on the language level, schedulability check and support for distributed programs.

**Doran:1988: AMA**

- [264] R. W. Doran. Amdahl multiple-domain architecture. *Computer*, 21(10):20–28, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Koren:1988: DVA**

- [265] Israel Koren, Bilha Mendelson, Irit Peled, and Gabriel M. Silberman. A

data-driven VLSI array for arbitrary algorithms. *Computer*, 21(10):30–43, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lewis:1988:HDS**

- [266] Ted G. Lewis and Curtis R. Cook. Hashing for dynamic and static internal tables. *Computer*, 21(10):45–56, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). The authors survey the classical hashing function approach to information retrieval and show how general hashing techniques exchange speed for memory. It is a tutorial paper that covers, among other topics, dynamic and static hash tables, perfect hashing, and minimal perfect hashing.

**Lie:1988:AML**

- [267] Y.-C. D. Lie. Appendix to ‘Multiple-valued logic: a tutorial and appreciation’ (April 17–27, 1988). *Computer*, 21(11):9, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Rich:1988:PAR**

- [268] C. Rich and R. C. Waters. The Programmer’s Apprentice: a research overview. *Computer*, 21(11):10–25, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Stenstrom:1988:RCS**

- [269] P. Stenström. Reducing contention in shared-memory multiprocessors. *Computer*, 21(11):26–37, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Britcher:1988:UII**

- [270] R. N. Britcher. Using inspections to investigate program correctness. *Computer*, 21(11):38–44, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Skillicorn:1988:TCA**

- [271] David B. Skillicorn. A taxonomy for computer architectures. *Computer*, 21(11):46–57, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Webster:1988:MDI**

- [272] D. E. Webster. Mapping the design information representation terrain. *Computer*, 21(12):8–23, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hill:1988:CDC**

- [273] M. D. Hill. A case for direct-mapped caches. *Computer*, 21(12):25–40, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Schaffner:1988:SSD**

- [274] Stuart C. Schaffner and Martha Borkan. Segue: Support for distributed graphical interfaces. *Computer*, 21(12):42–55, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Detlefs:1988:ISR**

- [275] David L. Detlefs, Maurice P. Herlihy, and Jeannette M. Wing. Inheritance of synchronization and recovery properties in Avalon/C++. *Computer*, 21(12):57–69, December 1988. CODEN CPTRB4.



ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1988:SS**

- [276] Anonymous. Software for supercomputers. *Computer*, 21(12):70–74, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Rau:1989:CDS**

- [277] B. Ramakrishna Rau, D. W. L. Yen, Wei Yen, and R. A. Towle. The Cydra 5 departmental supercomputer: design philosophies, decisions, and trade-offs. *Computer*, 22(1):12–35, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Jones:1989:EDC**

- [278] T. Jones. Engineering design of the Convex C2. *Computer*, 22(1):36–44, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**August:1989:CXB**

- [279] M. C. August, G. M. Brost, C. C. Hsiung, and A. J. Schiffleger. Cray X-MP: The birth of a supercomputer. *Computer*, 22(1):45–52, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cragon:1989:TAS**

- [280] H. G. Cragon and W. J. Watson. The TI Advanced Scientific Computer. *Computer*, 22(1):55–64, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Maytal:1989:DCG**

- [281] B. Maytal, S. Iacobovici, D. B. Alpert, D. Biran, J. Levy, and S. Y. Tov. Design considerations for a general-purpose

microprocessor. *Computer*, 22(1):66–76, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lee:1989:PA**

- [282] R. B. Lee. Precision architecture. *Computer*, 22(1):78–91, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Myers:1989:SPS**

- [283] W. Myers. Software pivotal to strategic defense. *Computer*, 22(1):92–97, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Linton:1989:CUI**

- [284] Mark A. Linton, John M. Vissides, and Paul R. Calder. Composing user interfaces with InterViews. *Computer*, 22(2):8–22, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). From *Computing Reviews*: “InterViews objects are combined through a model similar to the boxes and glues in Knuth’s  $\text{\TeX}$ , which allows interface objects to be combined with little concern for undesired interactions.”

**Bhuyan:1989:PMI**

- [285] L. N. Bhuyan, Qing Yang, and D. P. Agrawal. Performance of multiprocessor interconnection networks. *Computer*, 22(2):25–37, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Richardson:1989:COA**

- [286] Stephen Richardson and Mahadevan Ganapathi. Code optimization across

procedures. *Computer*, 22(2):42–50, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ganapathi:1989:IAC**

- [287] M. Ganapathi and G. O. Mendal. Issues in Ada compiler technology. *Computer*, 22(2):52–60, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Denning:1989:CD**

- [288] P. J. Denning, D. E. Comer, D. Gries, M. C. Mulder, A. Tucker, A. J. Turner, and P. R. Young. Computing as a discipline. *Computer*, 22(2):63–70, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See also preliminary report [221].

**Gries:1989:SRD**

- [289] D. Gries, T. Walker, and P. R. Young. 1988 Snowbird report: a discipline matures (computer science education). *Computer*, 22(2):72–75, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Wilfong:1989:RA**

- [290] G. T. Wilfong. Robotics and automation. *Computer*, 22(3):6–8, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Sharir:1989:AMP**

- [291] M. Sharir. Algorithmic motion planning in robotics. *Computer*, 22(3):9–19, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lozano-Perez:1989:TPP**

- [292] T. Lozano-Perez, J. L. Jones, E. Mazer, and P. A. O’Donnell. Task-level planning of pick-and-place robot motions. *Computer*, 22(3):21–29, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hoffmann:1989:PAR**

- [293] C. M. Hoffmann. The problems of accuracy and robustness in geometric computation. *Computer*, 22(3):31–39, 41, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cox:1989:EHR**

- [294] I. J. Cox and N. H. Gehani. Exception handling in robotics. *Computer*, 22(3):43–49, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Allen:1989:CRR**

- [295] P. Allen, P. Michelman, and K. Roberts. Current research in robotics and automation — an intelligent grasping system. *Computer*, 22(3):50–52, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Eicker:1989:CRR**

- [296] P. J. Eicker and D. R. Strip. Current research in robotics and automation — automated planning and programming for robotic batch mechanical assembly. *Computer*, 22(3):53–54, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hopcroft:1989:CRR**

- [297] J. E. Hopcroft. Current research in robotics and automation — electronic prototyping. *Computer*, 22(3): 55–57, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bekey:1989:CRR**

- [298] G. A. Bekey. Current research in robotics and automation-robotics research at USC. *Computer*, 22(3):58–60, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Keefe:1989:SQS**

- [299] T. F. Keefe, M. B. Thuraisingham, and W. T. Tsai. Secure query-processing strategies. *Computer*, 22(3): 63–70, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bhattacharya:1989:HTG**

- [300] Debashis Bhattacharya, Brian T. Murray, and John P. Hayes. High-level test generation for VLSI. *Computer*, 22(4): 16–24, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Renous:1989:WWT**

- [301] R. Renous, G. M. Silberman, and I. Spillinger. Whistle: A workbench for test development of library-based designs. *Computer*, 22(4):27–41, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cheng:1989:GAT**

- [302] W.-T. Cheng and T. J. Chakraborty. Gentest: An automatic test-generation system for sequential circuits. *Computer*, 22(4):43–49, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Heap:1989:GSC**

- [303] M. A. Heap and W. A. Rogers. Generating single-stuck-fault coverage from a collapsed-fault set. *Computer*, 22(4): 51–57, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hallenbeck:1989:TEA**

- [304] J. J. Hallenbeck, J. R. Cybrynski, N. Kanopoulos, T. Markas, and N. Vasanthavada. The Test Engineer's Assistant: A support environment for hardware design for testability. *Computer*, 22(4):59–68, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Tanik:1989:RPS**

- [305] M. M. Tanik and R. T. Yeh. Rapid prototyping in software development. *Computer*, 22(5):9–12, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Luqi:1989:SET**

- [306] Luqi. Software evolution through rapid prototyping. *Computer*, 22(5): 13–25, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gupta:1989:OVC**

- [307] R. Gupta, W. H. Cheng, R. Gupta, I. Hardonag, and M. A. Breuer. An object-oriented VLSI CAD framework. *Computer*, 22(5):28–37, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Jordan:1989:SSC**

- [308] P. W. Jordan, K. S. Keller, R. W. Tucker, and D. Vogel. Software storming: Combining rapid prototyping and knowledge engineering. *Computer*, 22(5):39–48, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lewis:1989:PSU**

- [309] T. G. Lewis, F. Handloser, III, S. Bose, and S. Yang. Prototypes from Standard User Interface Management Systems. *Computer*, 22(5):51–60, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Duke:1989:RPF**

- [310] E. L. Duke, R. W. Brumbaugh, and J. D. Disbrow. A rapid prototyping facility for flight research in advanced systems concepts. *Computer*, 22(5):61–66, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cieslak:1989:PNP**

- [311] R. Cieslak, A. Fawaz, S. Sachs, P. Varaiya, J. Walrand, and A. Li. The programmable network prototyping system. *Computer*, 22(5):67–76, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**McKeeman:1989:GTA**

- [312] W. M. McKeeman. Graduation talk at Wang Institute. *Computer*, 22(5):78–80, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Iyengar:1989:AIM**

- [313] S. S. Iyengar and R. L. Kashyap. Autonomous intelligent machines. *Computer*, 22(6):14–17, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bares:1989:AAR**

- [314] John Bares, Martial Hebert, Takeo Kanade, Eric Krotkov, Tom Mitchell, Reid Simmons, and William Whittaker. Ambler — an autonomous rover for planetary exploration. *Computer*, 22(6):18–26, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Weisbin:1989:AMR**

- [315] C. R. Weisbin, G. de Saussure, J. R. Einstein, F. G. Pin, and E. Heer. Autonomous mobile robot navigation and learning. *Computer*, 22(6):29–35, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Rao:1989:AFL**

- [316] N. S. V. Rao. Algorithmic framework for learned robot navigation in unknown terrains. *Computer*, 22(6):37–43, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Elfes:1989:UOG**

- [317] A. Elfes. Using occupancy grids for mobile robot perception and navigation.

*Computer*, 22(6):46–57, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bihari:1989:CAS**

- [318] T. E. Bihari, T. M. Walliser, and M. R. Patterson. Controlling the adaptive suspension vehicle. *Computer*, 22(6):59–65, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Barhen:1989:NLC**

- [319] Jacob Barhen, Sandeep Gulati, and Michail Zak. Neural learning of constrained nonlinear transformations. *Computer*, 22(6):67–76, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lee:1989:PRK**

- [320] I. Lee, R. B. King, and R. P. Paul. A predictable real-time kernel for distributed multisensor systems. *Computer*, 22(6):78–83, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Roth-Tabak:1989:BEM**

- [321] Y. Roth-Tabak and R. Jain. Building an environment model using depth information. *Computer*, 22(6):85–90, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Trivedi:1989:VSR**

- [322] M. M. Trivedi, C. X. Chen, and S. B. Marapane. A vision system for robotic inspection and manipulation. *Computer*, 22(6):91–97, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Preston:1989:ACB**

- [323] K. Preston, Jr. The Abingdon Cross benchmark survey. *Computer*, 22(7):9–18, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Smith:1989:DIS**

- [324] J. E. Smith. Dynamic instruction scheduling and the Astronautics ZS-1. *Computer*, 22(7):21–35, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Biggerstaff:1989:DRM**

- [325] T. J. Biggerstaff. Design recovery for maintenance and reuse. *Computer*, 22(7):36–49, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Chisvin:1989:CAM**

- [326] L. Chisvin and R. J. Duckworth. Content-addressable and associative memory: Alternatives to the ubiquitous RAM. *Computer*, 22(7):51–64, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Dinning:1989:SSM**

- [327] A. Dinning. A survey of synchronization methods for parallel computers. *Computer*, 22(7):66–77, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**DeFanti:1989:VES**

- [328] T. A. DeFanti, M. D. Brown, and B. H. McCormick. Visualization: Expanding scientific and engineering research opportunities. *Computer*, 22(8):12–16, 22–25, August 1989. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

**Phillips:1989:DVA**

**Helman:1989:RDV**

- [329] J. Helman and L. Hesselink. Representation and display of vector field topology in fluid flow data sets. *Computer*, 22(8):27–36, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [334] R. L. Phillips. Distributed visualization at Los Alamos National Laboratory. *Computer*, 22(8):70–77, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cabral:1989:VTA**

**Long:1989:ARD**

- [330] M. B. Long, K. Lyons, and J. K. Lam. Acquisition and representation of 2D and 3D data from turbulent flows and flames. *Computer*, 22(8):39–45, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [335] B. Cabral and C. L. Hunter. Visualization tools at Lawrence Livermore National Laboratory. *Computer*, 22(8):77–84, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Haber:1989:SVR**

**Fuchs:1989:IVM**

- [331] Henry Fuchs, Marc Levoy, and Stephen M. Pizer. Interactive visualization of 3-D medical data. *Computer*, 22(8):46–51, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [336] R. B. Haber. Scientific visualization and the Rivers Project at the National Center for Supercomputing Applications. *Computer*, 22(8):84–89, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Bancroft:1989:SVC**

**Hibbard:1989:VLD**

- [332] W. Hibbard and D. Santek. Visualizing large data sets in the Earth sciences. *Computer*, 22(8):53–59, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [337] G. V. Bancroft, T. Plessel, F. Merritt, P. P. Walataka, and V. Watson. Scientific visualization in computational aerodynamics at NASA Ames Research Center. *Computer*, 22(8):89–95, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kluksdahl:1989:RVS**

- [333] N. C. Kluksdahl, A. M. Kriman, and D. K. Ferry. The role of visualization in the simulation of quantum electronic transport in semiconductors. *Computer*, 22(8):60–66, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Rosenblum:1989:VED**

- [338] L. J. Rosenblum. Visualization of experimental data at the Naval Research Laboratory. *Computer*, 22(8):95–101, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Pappas:1989:TIP**

- [339] T. L. Pappas. T<sub>E</sub>Xnology on the IBM PC. *Computer*, 22(8):111–120, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Johnson:1989:XSR**

- [340] J. Johnson, T. L. Roberts, W. Verplank, D. C. Smith, C. H. Irby, M. Beard, and K. Mackey. The Xerox Star: a retrospective. *Computer*, 22(9):11–26, 28–29, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Cheng:1989:VPC**

- [341] H. Cheng. Vector pipelining, chaining, and speed on the IBM 3090 and Cray X-MP. *Computer*, 22(9):31–42, 44, 46, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lieberherr:1989:AGS**

- [342] Karl J. Lieberherr and Ian M. Holland. Assuring good style for object-oriented programs. *Computer*, 22(9):38–44, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Artsy:1989:DPM**

- [343] Yeshayahu Artsy and Raphael Finkel. Designing a process migration facility: The Charlotte experience. *Computer*, 22(9):47–56, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). **Review:** *Computing Reviews*, Vol. 31, No. 8, August 1990.

**Ford:1989:MSE**

- [344] G. A. Ford and N. E. Gibbs. A Master of Software Engineering Curriculum: Rec-

ommendations from the Software Engineering Institute. *Computer*, 22(9):59–71, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ambler:1989:IVT**

- [345] A. L. Ambler and M. M. Burnett. Influence of visual technology on the evolution of language environments. *Computer*, 22(10):9–22, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Roman:1989:DAV**

- [346] G.-C. Roman and K. C. Cox. A declarative approach to visualizing concurrent computations. *Computer*, 22(10):25–36, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Lehr:1989:VPD**

- [347] Ted Lehr, Zary Segall, Dalibor F. Vrsalovic, Eddie Caplan, Alan L. Chung, and Charles E. Fineman. Visualizing performance debugging. *Computer*, 22(10):38–51, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kramer:1989:GCP**

- [348] Jeffrey Kramer, J. Magee, and K. Ng. Graphical configuration programming. *Computer*, 22(10):53–58, 62–65, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gu:1989:SAV**

- [349] J. Gu and K. F. Smith. A structured approach for VLSI circuit design. *Computer*, 22(11):9–22, November 1989. CO-

DEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Hac:1989:SON**

- [350] A. Hac and H. B. Mutlu. Synchronous optical network and broadband ISDN protocols. *Computer*, 22(11):26–34, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Singhal:1989:DDD**

- [351] M. Singhal. Deadlock detection in distributed systems. *Computer*, 22(11):37–48, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Gries:1989:TSR**

- [352] D. Gries and D. Marsh. The 1987–88 Taulbee Survey Report. *Computer*, 22(11):49–56, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1989:CSP**

- [353] Anonymous. The computer spectrum: a perspective on the evolution of computing. *Computer*, 22(11):57–63, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Anonymous:1989:SHU**

- [354] Anonymous. Supercomputer hardware: an update of the 1983 report's summary and tables. *Computer*, 22(11):63–68, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Grosky:1989:GEI**

- [355] W. I. Grosky and R. Mehrotra. Guest Editors' introduction: Image database

management. *Computer*, 22(12):7–8, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Kasturi:1989:MDP**

- [356] R. Kasturi, R. Fernandez, M. L. Amlani, and W.-C. Feng. Map data processing in Geographic Information Systems. *Computer*, 22(12):10–21, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Brolio:1989:IDS**

- [357] J. Brolio, B. A. Draper, J. R. Beveridge, and A. R. Hanson. ISR: A database for symbolic processing in computer vision. *Computer*, 22(12):22–30, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Jagadish:1989:OMI**

- [358] H. V. Jagadish and L. O'Gorman. An object model for image recognition. *Computer*, 22(12):33–41, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Goodman:1989:KBC**

- [359] Andrew M. Goodman, Robert M. Haralick, and Linda G. Shapiro. Knowledge-based computer vision — integrated programming language and data management system design. *Computer*, 22(12):43–54, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Pizano:1989:SSI**

- [360] A. Pizano, A. Klinger, and A. Cardenas. Specification of spatial integrity



constraints in pictorial databases. *Computer*, 22(12):59–71, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

**Ziv:1977:UAS**

- [361] Jacob Ziv and Abraham Lempel. A universal algorithm for sequential data compression. *IEEE Transactions on Information Theory*, IT-23(3):337–343, May 1977. CODEN IETTAW. ISSN 0018-9448 (print), 1557-9654 (electronic).

**Ziv:1978:CIS**

- [362] J. Ziv and A. Lempel. Compression of individual sequences via variable rate coding. *IEEE Transactions on Information Theory*, IT-24(5):530–536, September 1978. CODEN IETTAW. ISSN 0018-9448 (print), 1557-9654 (electronic).

**Crocker:1995:PPN**

- [363] Lee Daniel Crocker. PNG: The Portable Network Graphic format. *Dr. Dobb's Journal of Software Tools*, 20(7):36, 38, 40, 42, 44, July 1995. CODEN DDJOEB. ISSN 1044-789X.

**Roelofs:1999:PDG**

- [364] Greg Roelofs. *PNG: The Definitive Guide*. O'Reilly & Associates, Inc., 103a Morris Street, Sebastopol, CA 95472, USA, Tel: +1 707 829 0515, and 90 Sherman Street, Cambridge, MA 02140, USA, Tel: +1 617 354 5800, 1999. ISBN 1-56592-542-4. xix + 327 + 4 pp. LCCN T385 .R58 1999. US\$32.95. URL <http://www.libpng.org/pub/png/pngbook.html>; <http://www.oreilly.com/catalog/pngdefg>.

**Salomon:2000:DCC**

- [365] David Salomon. *Data Compression: The Complete Reference*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., second edition, 2000. ISBN 0-387-95045-1. xvi + 823 pp. LCCN QA76.9.D33 S25 2000. US\$39.95. URL <http://www.ecs.csun.edu/~dxs/DCadvertis/Dcomp2Ad.html>.