Manuel Prieto-Matias

List of Publications by Year
in descending order

113	1,467	361296	414303
papers	citations	20 h-index	32 g-index

117	117	117	1172
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Survey of Energy-Cognizant Scheduling Techniques. IEEE Transactions on Parallel and Distributed Systems, 2013, 24, 1447-1464.	4.0	123
2	Survey of scheduling techniques for addressing shared resources in multicore processors. ACM Computing Surveys, 2012, 45, 1-28.	16.1	100
3	A comprehensive scheduler for asymmetric multicore systems. , 2010, , .		96
4	Parallel Implementation of the 2D Discrete Wavelet Transform on Graphics Processing Units: Filter Bank versus Lifting. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 299-310.	4.0	85
5	Parallel Morphological Endmember Extraction Using Commodity Graphics Hardware. IEEE Geoscience and Remote Sensing Letters, 2007, 4, 441-445.	1.4	58
6	Maximizing power efficiency with asymmetric multicore systems. Communications of the ACM, 2009, 52, 48-57.	3.3	48
7	GPU for Parallel On-Board Hyperspectral Image Processing. International Journal of High Performance Computing Applications, 2008, 22, 424-437.	2.4	42
8	Accelerating fluidâ€“solid simulations (Lattice-Boltzmann & Immersed-Boundary) on heterogeneous architectures. Journal of Computational Science, 2015, 10, 249-261.	1.5	36
9	kNN Query Processing in Metric Spaces Using GPUs. Lecture Notes in Computer Science, 2011, , 380-392.	1.0	36
10	Fast finite difference Poisson solvers on heterogeneous architectures. Computer Physics Communications, 2014, 185, 1265-1272.	3.0	33
11	Leveraging workload diversity through OS scheduling to maximize performance on single-ISA heterogeneous multicore systems. Journal of Parallel and Distributed Computing, 2011, 71, 114-131.	2.7	32
12	A Low Cost Matching Motion Estimation Sensor Based on the NIOS II Microprocessor. Sensors, 2012, 12, 13126-13149.	2.1	30
13	Leveraging Core Specialization via OS Scheduling to Improve Performance on Asymmetric Multicore Systems. ACM Transactions on Computer Systems, 2012, 30, 1-38.	0.6	29
14	SWIFOLD: Smith-Waterman implementation on FPGA with OpenCL for long DNA sequences. BMC Systems Biology, 2018, 12, 96.	3.0	29
15	Acceleration of block-matching algorithms using a custom instruction-based paradigm on a Nios II microprocessor. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	27
16	OSWALD. International Journal of High Performance Computing Applications, 2018, 32, 337-350.	2.4	26
17	Customizing the branch predictor to reduce complexity and energy consumption. IEEE Micro, 2003, 23, 12-25.	1.8	23
18	Operating system support for mitigating software scalability bottlenecks on asymmetric multicore processors. , 2010, , .		23

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19	Accelerating Solid-fluid Interaction using Lattice-boltzmann and Immersed Boundary Coupled Simulations on Heterogeneous Platforms. Procedia Computer Science, 2014, 29, 50-61.	1.2	22
20	Parallel Multigrid for Anisotropic Elliptic Equations. Journal of Parallel and Distributed Computing, 2001, 61, 96-114.	2.7	21
21	Contention-Aware Fair Scheduling for Asymmetric Single-ISA Multicore Systems. IEEE Transactions on Computers, 2018, 67, 1703-1719.	2.4	21
22	Towards completely fair scheduling on asymmetric single-ISA multicore processors. Journal of Parallel and Distributed Computing, 2017, 102, 115-131.	2.7	20
23	GPUâ€based acceleration of bioâ€inspired motion estimation model. Concurrency Computation Practice and Experience, 2013, 25, 1037-1056.	1.4	19
24	SWIMM 2.0: Enhanced Smithâ€“Waterman on Intelâ€™s Multicore and Manycore Architectures Based on AVX-512 Vector Extensions. International Journal of Parallel Programming, 2019, 47, 296-316.	1.1	19
25	Data locality exploitation in the decomposition of regular domain problems. IEEE Transactions on Parallel and Distributed Systems, 2000, 11, 1141-1150.	4.0	17
26	Block Tridiagonal Solvers on Heterogeneous Architectures. , 2012, , .		17
27	PMCTrack: Delivering Performance Monitoring Counter Support to the OS Scheduler. Computer Journal, 2017, 60, 60-85.	1.5	17
28	Multi-GPU based on multicriteria optimization for motion estimation system. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	15
29	An energyâ€aware performance analysis of SWIMM: Smithâ€“Waterman implementation on Intel's Multicore and Manycore architectures. Concurrency Computation Practice and Experience, 2015, 27, 5517-5537.	1.4	15
30	Portability Study of an OpenCL Algorithm for Automatic Target Detection in Hyperspectral Images. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 9499-9511.	2.7	15
31	Parallel Implementation of a Full Hyperspectral Unmixing Chain Using OpenCL. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 2452-2461.	2.3	13
32	Portable real-time DCT-based steganography using OpenCL. Journal of Real-Time Image Processing, 2018, 14, 87-99.	2.2	13
33	Complexity reduction in the HEVC/H265 standard based on smooth region classification. , 2018, 73, 24-39.		13
34	2-D Wavelet Transform Enhancement on General- Purpose Microprocessors: Memory Hierarchy and SIMD Parallelism Exploitation. Lecture Notes in Computer Science, 2002, , 9-21.	1.0	13
35	Improving face recognition by combination of natural and Gabor faces. Pattern Recognition Letters, 2010, 31, 1453-1460.	2.6	12
36	Smith-Waterman algorithm on heterogeneous systems: A case study. , 2014, , .		12

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37	A parallel multigrid solver for 3D convection and convectionâ€“diffusion problems. Parallel Computing, 2001, 27, 1715-1741.	1.3	11
38	Improving superword level parallelism support in modern compilers. , 2005, , .		11
39	Early Experiences with OpenCL on FPGAs: Convolution Case Study. , 2015, , .		11
40	Accelerating Smith-Waterman Alignment of Long DNA Sequences with OpenCL on FPGA. Lecture Notes in Computer Science, 2017, , 500-511.	1.0	11
41	Hybrid parallelization of a compact genetic algorithm. , 2003, , .		10
42	A power measurement environment for PCIe accelerators. Computer Science - Research and Development, 2015, 30, 115-124.	2.7	10
43	ACFS. , 2015, , .		10
44	Parallel Hyperspectral Image Processing on Commodity Graphics Hardware. , 0, , .		9
45	Robust motion estimation on a low-power multi-core DSP. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	9
46	System-level process variability compensation on memory organizations of dynamic applications: a case study. , 0, , .		8
47	Message Passing Evaluation and Analysis on Cray T3E and SGI Origin 2000 Systems. Lecture Notes in Computer Science, 1999, , 173-182.	1.0	8
48	Load-store queue management: an energy-efficient design based on a state-filtering mechanism. , 0, , .		7
49	DMDC: Delayed Memory Dependence Checking through Age-Based Filtering. Microarchitecture (MICRO), Proceedings of the Annual International Symposium on, 2006, , .	0.0	7
50	Offset Printing Plate Quality Sensor on a Low-Cost Processor. Sensors, 2013, 13, 14277-14300.	2.1	7
51	LFOC. , 2019, , .		7
52	Multi-level Clustering on Metric Spaces Using a Multi-GPU Platform. Lecture Notes in Computer Science, 2013, , 216-228.	1.0	7
53	Range query processing on single and multi GPU environments. Computers and Electrical Engineering, 2013, 39, 2656-2668.	3.0	6
54	Smith-Waterman Protein Search with OpenCL on an FPGA. , 2015, , .		6

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55	Wavelet Transform for Large Scale Image Processing on Modern Microprocessors. Lecture Notes in Computer Science, 2003, , 549-562.	1.0	6
56	A parallel multigrid solver for viscous flows on anisotropic structured grids. Parallel Computing, 2003, 29, 907-923.	1.3	5
57	Combining system scenarios and configurable memories to tolerate unpredictability. ACM Transactions on Design Automation of Electronic Systems, 2008, 13, 1-7.	1.9	5
58	Building efficient multi-threaded search nodes. , 2010, , .		5
59	A Power-Efficient and Scalable Load-Store Queue Design. Lecture Notes in Computer Science, 2005, , 1-9.	1.0	5
60	A CPU-GPU Parallel Ant Colony Optimization Solver for the Vehicle Routing Problem. Lecture Notes in Computer Science, 2018, , 653-667.	1.0	5
61	A Load-Store Queue Design Based on Predictive State Filtering. Journal of Low Power Electronics, 2006, 2, 27-36.	0.6	5
62	Real-Time Onboard Hyperspectral Image Processing Using Programmable Graphics Hardware. Chapman & Hall/CRC Computer and Information Science Series, 2007, , 411-451.	0.4	5
63	Improving Search Engines Performance on Multithreading Processors. Lecture Notes in Computer Science, 2008, , 201-213.	1.0	5
64	Enabling performance portability of data-parallel OpenMP applications on asymmetric multicore processors. , 2020, , .		5
65	Migrating CUDA toÂoneAPI: A Smith-Waterman Case Study. Lecture Notes in Computer Science, 2022, , 103-116.	1.0	5
66	Range Query Processing in a Multi-GPU Environment. , 2012, , .		4
67	A fast parallel hyperspectral coded aperture algorithm for compressive sensing using OpenCL. , 2015, , .		4
68	On the Interplay Between Throughput, Fairness and Energy Efficiency on Asymmetric Multicore Processors. Computer Journal, 2018, 61, 74-94.	1.5	4
69	PBBCache: An open-source parallel simulator for rapid prototyping and evaluation of cache-partitioning and cache-clustering policies. Journal of Computational Science, 2020, 42, 101102.	1.5	4
70	Impact of PE Mapping on Cray T3E Message-Passing Performance. Lecture Notes in Computer Science, 2000, , 199-207.	1.0	4
71	Partitioning Regular Domains on Modern Parallel Computers. Lecture Notes in Computer Science, 1999, , 411-424.	1.0	4
72	An OS-Oriented Performance Monitoring Tool for Multicore Systems. Lecture Notes in Computer Science, 2015, , 697-709.	1.0	3

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73	State-of-the-Art in Smithâ€“Waterman Protein Database Search on HPC Platforms. , 2016, , 197-223.		3
74	Performance-Power Evaluation of an OpenCL Implementation of the Simplex Growing Algorithm for Hyperspectral Unmixing. IEEE Geoscience and Remote Sensing Letters, 2017, 14, 304-308.	1.4	3
75	Reuse Detector: Improving the Management of STT-RAM SLLCs. Computer Journal, 2018, 61, 856-880.	1.5	3
76	HEVC optimization based on human perception for real-time environments. Multimedia Tools and Applications, 2020, 79, 16001-16033.	2.6	3
77	LFOC+: A Fair OS-level Cache-Clustering Policy for Commodity Multicore Systems. IEEE Transactions on Computers, 2021, , 1-1.	2.4	3
78	Exploring the Throughput-Fairness Trade-off on Asymmetric Multicore Systems. Lecture Notes in Computer Science, 2014, , 326-337.	1.0	3
79	Exploiting Multilevel Parallelism Within Modern Microprocessors: DWT as a Case Study. Lecture Notes in Computer Science, 2005, , 556-568.	1.0	2
80	Improving Priority Enforcement via Non-Work-Conserving Scheduling. , 2008, , .		2
81	Using age registers for a simple loadâ€“store queue filtering. Journal of Systems Architecture, 2009, 55, 79-89.	2.5	2
82	Endmember extraction from hyperspectral imagery using a parallel ensemble approach with consensus analysis. , 2009, , .		2
83	Implementation of a Low-Cost Mobile Devices to Support Medical Diagnosis. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-9.	0.7	2
84	Performance portability study of an automatic target detection and classification algorithm for hyperspectral image analysis using OpenCL. , 2015, , .		2
85	Code obfuscation using very long identifiers for FFT motion estimation models in embedded processors. Journal of Real-Time Image Processing, 2016, 11, 817-827.	2.2	2
86	Parallel implementation of the simplex growing algorithm for hyperspectral unmixing using OpenCL. , 2016, , .		2
87	HeSP: A Simulation Framework for Solving theÂTask Scheduling-Partitioning Problem onÂHeterogeneous Architectures. Lecture Notes in Computer Science, 2016, , 183-195.	1.0	2
88	OpenACC-based GPU acceleration of an optical flow algorithm. , 2015, , .		2
89	A multigrid solver for the incompressible Navier-Stokes equations on a Beowulf-class system. , 2001, , .		1
90	LSQ: a power efficient and scalable implementation. IEE Proceedings: Computers and Digital Techniques, 2006, 153, 389.	1.6	1

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91	Replacing Associative Load Queues: A Timing-Centric Approach. IEEE Transactions on Computers, 2009, 58, 496-511.	2.4	1
92	Hybrid timing-address oriented load-store queue filtering for an x86 architecture. IET Computers and Digital Techniques, 2011, 5, 145.	0.9	1
93	Non-negative matrix factorization on low-power architectures. , 2013, , .		1
94	System-level memory management based on statistical variability compensation for frame-based applications. Transactions on Embedded Computing Systems, 2013, 13, 1-28.	2.1	1
95	Non-negative Matrix Factorization on Low-Power Architectures and Accelerators: A Comparative Study. Computers and Electrical Engineering, 2015, 46, 139-156.	3.0	1
96	Parallel implementation of the multiple endmember spectral mixture analysis algorithm for hyperspectral unmixing. , 2015, , .		1
97	Performance and Scalability Study of FMM Kernels on Novel Multi- and Many-core Architectures. Procedia Computer Science, 2017, 108, 2313-2317.	1.2	1
98	Variable intra-task threading for power-constrained performance and energy optimization in DAG scheduling. Journal of Supercomputing, 2019, 75, 1717-1731.	2.4	1
99	Multicore and Manycore. Advances in Systems Analysis, Software Engineering, and High Performance Computing Book Series, 2016, , 107-158.	0.5	1
100	An environment to develop parallel code for solving partial differential equations based-problems. Journal of Systems Architecture, 1999, 45, 543-554.	2.5	0
101	Energy reduction of the fetch mechanism through dynamic adaptation. IET Computers and Digital Techniques, 2008, 2, 94.	0.9	0
102	System-level process variability compensation on memory organizations. On the scalability of multi-mode memories. , 2009, , .		0
103	Customized Nios II multi-cycle instructions to accelerate block-matching techniques. Proceedings of SPIE, 2015, , .	0.8	0
104	Fast-coding robust motion estimation model in a GPU. Proceedings of SPIE, 2015, , .	0.8	0
105	Parallel trajectory synchronization for aircraft conflicts resolution. , 2015, , .		0
106	OpenCL-library-based implementation of SCLSU algorithm for remotely sensed hyperspectral data exploitation: clMAGMA versus viennaCL. Proceedings of SPIE, 2016, , .	0.8	0
107	Parallel implementation of a hyperspectral data geometry-based estimation of number of endmembers algorithm. Proceedings of SPIE, 2016, , .	0.8	0
108	STEEL-RT: combining single taskâ€“single executor model and expanded scheduling to ease heterogeneity exploitation. Journal of Supercomputing, 2020, 76, 4682-4700.	2.4	0

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109	Statistical approach in a system level methodology to deal with process variation. , 2010, , .		0
110	On-Line Multi-Threaded Processing of Web User-Clicks on Multi-Core Processors. Lecture Notes in Computer Science, 2011, , 222-235.	1.0	0
111	Delivering fairness and priority enforcement on asymmetric multicore systems via OS scheduling. Performance Evaluation Review, 2013, 41, 343-344.	0.4	0
112	Delivering Fairness on Asymmetric Multicore Systems via Contention-Aware Scheduling. Lecture Notes in Computer Science, 2018, , 610-622.	1.0	0
113	Energy-aware fetch mechanism: trace cache and BTB customization. , 2005, , .		0