Andrew J Lumsdaine

List of Publications by Year
in descending order

209 papers	6,496 citations	304743 22 h-index	138484 58 g-index
221 all docs	221 docs citations	221 times ranked	4144 citing authors

#	Article	IF	Citations
1	Fast and Efficient Neural Network for Light Field Disparity Estimation. , 2021, , .		0
2	Critique of "Planetary Normal Mode Computation: Parallel Algorithms, Performance, and Reproducibility" by SCC Team From University of Washington. IEEE Transactions on Parallel and Distributed Systems, 2021, 32, 2639-2642.	5.6	1
3	Towards Modern C++ Language Support for MPI. , 2021, , .		3
4	Parallel Algorithms for Efficient Computation of High-Order Line Graphs of Hypergraphs. , 2021, , .		2
5	Unsupervised Monocular Depth Estimation From Light Field Image. IEEE Transactions on Image Processing, 2020, 29, 1606-1617.	9.8	37
6	Flexible Spatial and Angular Light Field Super Resolution. , 2020, , .		4
7	Direction-optimizing label propagation and its application to community detection. , 2020, , .		1
8	A Parallel Graph Environment for Real-World Data Analytics Workflows. , 2019, , .		6
9	RDMA Managed Buffers: A Case for Accelerating Communication Bound Processes via Fine-Grained Events for Zero-Copy Message Passing. , 2019, , .		0
10	Learning Depth Cues from Focal Stack for Light Field Depth Estimation. , 2019, , .		12
11	A Synchronization-Avoiding Distance-1 Grundy Coloring Algorithm for Power-Law Graphs. , 2019, , .		0
12	Distributed Direction-Optimizing Label Propagation for Community Detection. , 2019, , .		4
13	A scalable distance-1 vertex coloring algorithm for power-law graphs. , 2018, , .		1
14	Real-Time Refocusing Using an FPGA-Based Standard Plenoptic Camera. IEEE Transactions on Industrial Electronics, 2018, 65, 9757-9766.	7.9	15
15	rmalloc() and rpipe(). , 2018, , .		0
16	Adaptive Runtime Features for Distributed Graph Algorithms. , 2018, , .		0
17	Synchronization-Avoiding Graph Algorithms. , 2018, , .		5
18	Scale and Orientation Aware EPI-Patch Learning for Light Field Depth Estimation. , 2018, , .		17

#	Article	IF	Citations
19	Distributed, Shared-Memory Parallel Triangle Counting. , 2018, , .		2
20	Enabling Efficient Inter-Node Message Passing and Remote Memory Access Via a uGNI Based Light-Weight Network Substrate for Cray Interconnects. , 2018, , .		1
21	PyGB: GraphBLAS DSL in Python with Dynamic Compilation Into Efficient C++. , 2018, , .		7
22	Runtime Scheduling Policies for Distributed Graph Algorithms. , 2018, , .		6
23	Light-field flow: A subpixel-accuracy depth flow estimation with geometric occlusion model from a single light-field image. , 2017, , .		6
24	Distributed-memory fast maximal independent set. , 2017, , .		1
25	Declarative Guide Creation. IS&T International Symposium on Electronic Imaging, 2017, 29, 22-33.	0.4	0
26	Parallel Asynchronous Distributed-Memory Maximal Independent Set Algorithm with Work Ordering. , 2017, , .		1
27	Improving Performance of Distributed Graph Traversals via Application-Aware Plug-In Work Scheduler. Lecture Notes in Computer Science, 2017, , 545-556.	1.3	0
28	Families of Graph Algorithms: SSSP Case Study. Lecture Notes in Computer Science, 2017, , 428-441.	1.3	1
29	Context Matters. , 2016, , .		2
30	Network-Managed Virtual Global Address Space for Message-driven Runtimes. , 2016, , .		3
31	GBTL-CUDA: Graph Algorithms and Primitives for GPUs. , 2016, , .		20
32	Mathematical foundations of the GraphBLAS. , 2016, , .		131
33	Depth estimation with cascade occlusion culling filter for light-field cameras. , 2016, , .		1
34	Matrix-free Krylov iteration for implicit convolution of numerically low-rank data. Journal of Computational and Applied Mathematics, 2016, 308, 98-116.	2.0	1
35	Epoch Persistence: Safe, Efficient, On-demand Rendering for Streaming Data. , 2016, , .		0
36	The Value of Variance. , 2016, , .		4

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37	An Embedded DSL for High Performance Declarative Communication with Correctness Guarantees in C++. Lecture Notes in Computer Science, 2016, , 206-220.	1.3	0
38	Declarative Patterns for Imperative Distributed Graph Algorithms. , 2015, , .		0
39	Multimode plenoptic imaging. , 2015, , .		1
40	Comparison of Single Source Shortest Path Algorithms on Two Recent Asynchronous Many-task Runtime Systems. , 2015, , .		1
41	EduPar Introduction and Committees. , 2015, , .		0
42	Dynamic Adaptation for Elastic System Services Using Virtual Servers. , 2015, , .		0
43	Dynamic parallelism for simple and efficient GPU graph algorithms. , 2015, , .		14
44	A Unifying Programming Model for Parallel Graph Algorithms. , 2015, , .		0
45	Pixel-oriented techniques for visualizing next-generation HPC systems. , 2015, , .		0
46	Region-based memory management for GPU programming languages. , 2014, , .		5
47	Multiâ€scale contrastâ€based saliency enhancement for salient object detection. IET Computer Vision, 2014, 8, 207-215.	2.0	4
48	Scoping rules on a platter. , 2014, , .		1
49	Hybrid MPI. , 2014, , .		3
50	The radon image as plenoptic function. , 2014, , .		3
51	Region-based memory management for GPU programming languages. ACM SIGPLAN Notices, 2014, 49, 141-155.	0.2	5
52	Standards for graph algorithm primitives. , 2013, , .		63
53	Lytro camera technology: theory, algorithms, performance analysis. Proceedings of SPIE, 2013, , .	0.8	82
54	Plenoptic depth map in the case of occlusions. , 2013, , .		5

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55	Ownership passing. , 2013, , .		19
56	Expressing graph algorithms using generalized active messages. , 2013, , .		4
57	Ownership passing. ACM SIGPLAN Notices, 2013, 48, 177-186.	0.2	8
58	Hybrid MPI. , 2013, , .		31
59	Fourier analysis of the focused plenoptic camera. , 2013, , .		1
60	Expressing graph algorithms using generalized active messages. , 2013, , .		3
61	Line Assisted Light Field Triangulation and Stereo Matching. , 2013, , .		109
62	GPU Programming in Rust: Implementing High-Level Abstractions in a Systems-Level Language. , 2013, , .		15
63	Overplotting: Unified solutions under Abstract Rendering. , 2013, , .		11
64	Optimizing process creation and execution on multi-core architectures. International Journal of High Performance Computing Applications, 2013, 27, 147-161.	3.7	0
65	Abstract rendering: out-of-core rendering for information visualization. Proceedings of SPIE, 2013, , .	0.8	5
66	Introduction to the JEI Focal Track Presentations. , 2013, , .		0
67	Special Section Guest Editorial: Mobile Computational Photography. Journal of Electronic Imaging, 2013, 22, 010901.	0.9	0
68	Expressing graph algorithms using generalized active messages. ACM SIGPLAN Notices, 2013, 48, 289-290.	0.2	1
69	The multifocus plenoptic camera. Proceedings of SPIE, 2012, , .	0.8	41
70	Position Paper: Logic Programming for Parallel Irregular Applications. , 2012, , .		0
71	Avalanche. , 2012, , .		0
72	Cognitive architectures. , 2012, , .		8

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73	Optimizing latency and throughput for spawning processes on massively multicore processors. , 2012, , .		2
74	Spatial autocorrelation-based information visualization evaluation. , 2012, , .		1
75	Spatial analysis of discrete plenoptic sampling. Proceedings of SPIE, 2012, , .	0.8	12
76	Plenoptic rendering with interactive performance using GPUs. Proceedings of SPIE, 2012, , .	0.8	8
77	Efficient, dynamic data visualization with persistent data structures. , 2012, , .		1
78	An analysis of color demosaicing in plenoptic cameras. , 2012, , .		14
79	Watch this: A taxonomy for dynamic data visualization. , 2012, , .		14
80	The design and implementation of a multi-level content-addressable checkpoint file system. , 2012, , .		7
81	Visualizing cells and their connectivity graphs for CompuCell3D. , 2012, , .		2
82	Breaking the speed and scalability Barriers for Graph exploration on distributed-memory machines. , 2012, , .		32
83	Partial globalization of partitioned address spaces for zero-copy communication with shared memory. , 2011, , .		6
84	GoDEL: A Multidirectional Dataflow Execution Model for Large-Scale Computing. , 2011, , .		3
85	Reasonable abstractions: Semantics for dynamic data visualization. , 2011, , .		0
86	Extending Transfer Entropy Improves Identification of Effective Connectivity in a Spiking Cortical Network Model. PLoS ONE, 2011, 6, e27431.	2.5	178
87	Active pebbles. ACM SIGPLAN Notices, 2011, 46, 305-306.	0.2	2
88	Using Focused Plenoptic Cameras for Rich Image Capture. IEEE Computer Graphics and Applications, 2011, 31, 62-73.	1.2	17
89	A language for generic programming in the large. Science of Computer Programming, 2011, 76, 423-465.	1.9	16
90	Active pebbles. , 2011, , .		9

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91	Active pebbles. , 2011, , .		38
92	ConceptClang. , 2011, , .		5
93	Communication Optimization Beyond MPI. , 2011, , .		7
94	Superresolution with the focused plenoptic camera. Proceedings of SPIE, 2011, , .	0.8	35
95	Plenoptic Principal Planes. , 2011, , .		4
96	Kanor. Lecture Notes in Computer Science, 2011, , 190-204.	1.3	2
97	Scalable communication protocols for dynamic sparse data exchange. ACM SIGPLAN Notices, 2010, 45, 159-168.	0.2	21
98	Reducing Plenoptic Camera Artifacts. Computer Graphics Forum, 2010, 29, 1955-1968.	3.0	59
99	Focused plenoptic camera and rendering. Journal of Electronic Imaging, 2010, 19, 021106.	0.9	191
100	LogGOPSim. , 2010, , .		94
101	AM++. , 2010, , .		56
102	Workflows for parameter studies of multi-cell modeling. , 2010, , .		1
103	Extensible PGAS semantics for C++. , 2010, , .		2
104	Scalable communication protocols for dynamic sparse data exchange. , 2010, , .		31
105	Automatic Application of the Data-State Model in Data-Flow Contexts. , 2010, , .		3
106	A space-efficient parallel algorithm for computing betweenness centrality in distributed memory. , 2010, , .		31
107	Characterizing the Influence of System Noise on Large-Scale Applications by Simulation. , 2010, , .		157
108	Rich image capture with plenoptic cameras. , 2010, , .		12

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109	Accurately measuring overhead, communication time and progression of blocking and nonblocking collective operations at massive scale. International Journal of Parallel, Emergent and Distributed Systems, 2010, 25, 241-258.	1.0	18
110	Lazy Evaluation and Delimited Control. Logical Methods in Computer Science, 2010, 6, .	0.4	3
111	Checkpoint/Restart-Enabled Parallel Debugging. Lecture Notes in Computer Science, 2010, , 219-228.	1.3	5
112	Efficient MPI Support for Advanced Hybrid Programming Models. Lecture Notes in Computer Science, 2010, , 50-61.	1.3	4
113	Reusable, generic program analyses and transformations. ACM SIGPLAN Notices, 2010, 45, 5-14.	0.2	3
114	Toward foundations for type-reflective metaprogramming. ACM SIGPLAN Notices, 2010, 45, 25-34.	0.2	1
115	Lazy evaluation and delimited control. , 2009, , .		10
116	A power-aware, application-based performance study of modern commodity cluster interconnection networks. , 2009, , .		3
117	Algebraic Guide Generation. , 2009, , .		2
118	The impact of network noise at large-scale communication performance. , 2009, , .		20
119	Group Operation Assembly Language - A Flexible Way to Express Collective Communication. , 2009, , .		22
120	THE EFFECT OF NETWORK NOISE ON LARGE-SCALE COLLECTIVE COMMUNICATIONS. Parallel Processing Letters, 2009, 19, 573-593.	0.6	7
121	CIFTS: A Coordinated Infrastructure for Fault-Tolerant Systems. , 2009, , .		44
122	Theory and methods of lightfield photography. , 2009, , .		1
123	Software Engineering and Computational Science. Computing in Science and Engineering, 2009, 11, 12-13.	1.2	1
124	PFunc. , 2009, , .		24
125	Optimized Routing for Large-Scale InfiniBand Networks. , 2009, , .		23
126	Demand-driven execution of static directed acyclic graphs using task parallelism. , 2009, , .		2

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127	The focused plenoptic camera. , 2009, , .		288
128	Lazy evaluation and delimited control. ACM SIGPLAN Notices, 2009, 44, 153-164.	0.2	2
129	Towards Efficient MapReduce Using MPI. Lecture Notes in Computer Science, 2009, , 240-249.	1.3	53
130	Interconnect agnostic checkpoint/restart in open MPI. , 2009, , .		44
131	Reusable, generic program analyses and transformations. , 2009, , .		14
132	Toward foundations for type-reflective metaprogramming. , 2009, , .		9
133	High Dynamic Range Image Capture with Plenoptic 2.0 Camera. , 2009, , .		14
134	Single-source shortest paths with the parallel boost graph library. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 2009, , 219-248.	0.0	13
135	Stateless Clustering Using OSCAR and PERCEUS. 2008 22nd International Symposium on High Performance Computing Systems and Applications, 2008, , .	0.0	4
136	Stencil: A Conceptual Model for Representation and Interaction. , 2008, , .		7
137	Overlapping Communication and Computation with High Level Communication Routines. , 2008, , .		6
138	Optimizing non-blocking collective operations for infiniband. Parallel and Distributed Processing Symposium (IPDPS), Proceedings of the International Conference on, 2008, , .	1.0	22
139	Representing unit test data for large scale software development. , 2008, , .		2
140	Leveraging non-blocking collective communication in high-performance applications. , 2008, , .		18
141	Design and implementation of a high-performance MPI for C# and the common language infrastructure. , 2008, , .		10
142	Message progression in parallel computing - to thread or not to thread?. , 2008, , .		63
143	Multistage switches are not crossbars: Effects of static routing in high-performance networks. , 2008, , .		78
144	Accurately measuring collective operations at massive scale. Parallel and Distributed Processing Symposium (IPDPS), Proceedings of the International Conference on, 2008, , .	1.0	14

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145	Integrating semantics and compilation. , 2008, , .		8
146	OpenMP Extensions for Generic Libraries. Lecture Notes in Computer Science, 2008, , 123-133.	1.3	7
147	Sparse Non-blocking Collectives in Quantum Mechanical Calculations. Lecture Notes in Computer Science, 2008, , 55-63.	1.3	5
148	Communication Optimization for Medical Image Reconstruction Algorithms. Lecture Notes in Computer Science, 2008, , 75-83.	1.3	5
149	CHALLENGES IN PARALLEL GRAPH PROCESSING. Parallel Processing Letters, 2007, 17, 5-20.	0.6	346
150	The Design and Implementation of Checkpoint/Restart Process Fault Tolerance for Open MPI. , 2007, , .		114
151	Implementation and performance analysis of non-blocking collective operations for MPI. , 2007, , .		135
152	Interpreting large visual similarity matrices. , 2007, , .		15
153	A comparison of vertex ordering algorithms for large graph visualization. , 2007, , .		50
154	An extended comparative study of language support for generic programming. Journal of Functional Programming, 2007, 17, 145-205.	0.8	45
155	A New Approach to MPI Collective Communication Implementations. , 2007, , 45-54.		1
156	Optimizing a conjugate gradient solver with non-blocking collective operations. Parallel Computing, 2007, 33, 624-633.	2.1	88
157	An Extensible Framework for Distributed Testing of MPI Implementations. Lecture Notes in Computer Science, 2007, , 64-72.	1.3	5
158	A Case for Standard Non-blocking Collective Operations. Lecture Notes in Computer Science, 2007, , 125-134.	1.3	26
159	Analysis of Implementation Options for MPI-2 One-Sided. Lecture Notes in Computer Science, 2007, , 242-250.	1.3	12
160	Netgauge: A Network Performance Measurement Framework. Lecture Notes in Computer Science, 2007, , 659-671.	1.3	38
161	Parallelization of Generic Libraries Based on Type Properties. Lecture Notes in Computer Science, 2007, , 620-627.	1.3	0
162	Accelerating sparse matrix computations via data compression. , 2006, , .		105

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163	Open MPI: A High-Performance, Heterogeneous MPI. , 2006, , .		81
164	DFS: A Simple to Write Yet Difficult to Execute Benchmark. , 2006, , .		10
165	High-Performance Direct Pairwise Comparison of Large Genomic Sequences. IEEE Transactions on Parallel and Distributed Systems, 2006, 17, 764-772.	5.6	6
166	Algorithm specialization in generic programming. ACM SIGPLAN Notices, 2006, 41, 272-282.	0.2	8
167	Algorithm specialization in generic programming. , 2006, , .		12
168	Runtime synthesis of high-performance code from scripting languages. , 2006, , .		2
169	Modernizing the C++ Interface to MPI. Lecture Notes in Computer Science, 2006, , 266-274.	1.3	12
170	Optimizing a Conjugate Gradient Solver with Non-Blocking Collective Operations. Lecture Notes in Computer Science, 2006, , 374-382.	1.3	4
171	Essential language support for generic programming. ACM SIGPLAN Notices, 2005, 40, 73-84.	0.2	6
172	Associated types and constraint propagation for mainstream object-oriented generics. ACM SIGPLAN Notices, 2005, 40, 1-19.	0.2	17
173	The Component Architecture of Open MPI: Enabling Third-Party Collective Algorithms*. , 2005, , 167-185.		10
174	Using MPI with C# and the Common Language Infrastructure. Concurrency Computation Practice and Experience, 2005, 17, 895-917.	2.2	7
175	Generic programming for high-performance scientific applications. Concurrency Computation Practice and Experience, 2005, 17, 941-965.	2.2	6
176	Generic Programming and High-Performance Libraries. International Journal of Parallel Programming, 2005, 33, 145-164.	1.5	15
177	MultiArray: a C++ library for generic programming with arrays. Software - Practice and Experience, 2005, 35, 159-188.	3.6	14
178	Associated types and constraint propagation for mainstream object-oriented generics. , 2005, , .		19
179	Lifting sequential graph algorithms for distributed-memory parallel computation. , 2005, , .		32
180	The Lam/Mpi Checkpoint/Restart Framework: System-Initiated Checkpointing. International Journal of High Performance Computing Applications, 2005, 19, 479-493.	3.7	159

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181	Lifting sequential graph algorithms for distributed-memory parallel computation. ACM SIGPLAN Notices, 2005, 40, 423-437.	0.2	22
182	Essential language support for generic programming. , 2005, , .		34
183	Language Requirements for Large-Scale Generic Libraries. Lecture Notes in Computer Science, 2005, , 405-421.	1.3	11
184	Open MPI: Goals, Concept, and Design of a Next Generation MPI Implementation. Lecture Notes in Computer Science, 2004, , 97-104.	1.3	786
185	The Lambda Library: unnamed functions in C++. Software - Practice and Experience, 2003, 33, 259-291.	3.6	18
186	A Component Architecture for LAM/MPI. Lecture Notes in Computer Science, 2003, , 379-387.	1.3	84
187	Krylov Subspace Acceleration of Waveform Relaxation. SIAM Journal on Numerical Analysis, 2003, 41, 90-111.	2.3	7
188	A comparative study of language support for generic programming. , 2003, , .		77
189	A comparative study of language support for generic programming. ACM SIGPLAN Notices, 2003, 38, 115-134.	0.2	20
190	Concept-Controlled Polymorphism. Lecture Notes in Computer Science, 2003, , 228-244.	1.3	12
191	An updated set of basic linear algebra subprograms (BLAS). ACM Transactions on Mathematical Software, 2002, 28, 135-151.	2.9	504
192	Generic programming for high performance scientific applications. , 2002, , .		12
193	Using MPI with C# and the common language infrastructure. , 2002, , .		3
194	Guaranteed Optimization: Proving Nullspace Properties of Compilers. Lecture Notes in Computer Science, 2002, , 263-277.	1.3	2
195	Object-oriented analysis and design of the Message Passing Interface. Concurrency Computation Practice and Experience, 2001, 13, 245-292.	2.2	6
196	A Modern Framework for Portable High-Performance Numerical Linear Algebra. Lecture Notes in Computational Science and Engineering, 2000, , 1-55.	0.3	16
197	The generic graph component library. , 1999, , .		23
198	The generic graph component library. ACM SIGPLAN Notices, 1999, 34, 399-414.	0.2	13

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199	Generic Graph Algorithms for Sparse Matrix Ordering. Lecture Notes in Computer Science, 1999, , 120-129.	1.3	5
200	Spectra and pseudospectra of block Toeplitz matrices. Linear Algebra and Its Applications, 1998, 272, 103-130.	0.9	3
201	<title>Toolkit for parallel image processing</title>. , 1998, , .		16
202	A Rational Approach to Portable High Performance: The Basic Linear Algebra Instruction Set (BLAIS) and the Fixed Algorithm Size Template (FAST) Library. Lecture Notes in Computer Science, 1998, , 468-469.	1.3	8
203	The Matrix Template Library: A Generic Programming Approach to High Performance Numerical Linear Algebra. Lecture Notes in Computer Science, 1998, , 59-70.	1.3	44
204	Spectra and Pseudospectra of Waveform Relaxation Operators. SIAM Journal of Scientific Computing, 1997, 18, 286-304.	2.8	15
205	The design and evolution of the MPI-2 C++ interface. Lecture Notes in Computer Science, 1997, , 57-64.	1.3	5
206	The role of abstraction in high-performance computing. Lecture Notes in Computer Science, 1997, , 203-210.	1.3	4
207	MPI-2: Extending the message-passing interface. Lecture Notes in Computer Science, 1996, , 128-135.	1.3	66
208	Accelerating waveform relaxation methods with application to parallel semiconductor device simulationâ—. Numerical Functional Analysis and Optimization, 1995, 16, 395-414.	1.4	5
209	State observers for variable-reluctance motors. IEEE Transactions on Industrial Electronics, 1990, 37, 133-142.	7.9	163