Wei-Keng Liao

List of Publications by Year
in descending order

71	2,250	623734	552781
papers	citations	14	26
		h-index	g-index

72	72	72	2173
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Parallel netCDF. , 2003, , .		280
2	ElemNet: Deep Learning the Chemistry of Materials From Only Elemental Composition. Scientific Reports, 2018, 8, 17593.	3.3	242
3	Deep learning approaches for mining structure-property linkages in high contrast composites from simulation datasets. Computational Materials Science, 2018, 151, 278-287.	3.0	219
4	HACC: Simulating sky surveys on state-of-the-art supercomputing architectures. New Astronomy, 2016, 42, 49-65.	1.8	166
5	Enhancing materials property prediction by leveraging computational and experimental data using deep transfer learning. Nature Communications, 2019, 10, 5316.	12.8	160
6	Establishing structure-property localization linkages for elastic deformation of three-dimensional high contrast composites using deep learning approaches. Acta Materialia, 2019, 166, 335-345.	7.9	125
7	A PARALLEL MONTE CARLO CODE FOR SIMULATING COLLISIONAL N-BODY SYSTEMS. Astrophysical Journal, Supplement Series, 2013, 204, 15.	7.7	70
8	Dynamically adapting file domain partitioning methods for collective I/O based on underlying parallel file system locking protocols. , 2008, , .		56
9	Cross-property deep transfer learning framework for enhanced predictive analytics on small materials data. Nature Communications, 2021, 12, 6595.	12.8	55
10	Extracting Grain Orientations from EBSD Patterns of Polycrystalline Materials Using Convolutional Neural Networks. Microscopy and Microanalysis, 2018, 24, 497-502.	0.4	46
11	Scaling parallel I/O performance through I/O delegate and caching system. , 2008, , .		45
12	Efficient structured data access in parallel file systems. , 2003, , .		44
13	NUMARCK: Machine Learning Algorithm for Resiliency and Checkpointing. , 2014, , .		43
14	Collective caching: application-aware client-side file caching. , 0, , .		42
15	Microstructure optimization with constrained design objectives using machine learning-based feedback-aware data-generation. Computational Materials Science, 2019, 160, 334-351.	3.0	41
16	Enabling active storage on parallel I/O software stacks. , 2010, , .		36
17	An Implementation and Evaluation of Client-Side File Caching for MPI-IO. , 2007, , .		33
18	Property Prediction of Organic Donor Molecules for Photovoltaic Applications Using Extremely Randomized Trees. Molecular Informatics, 2019, 38, e1900038.	2.5	31

#	ARTICLE	IF	CITATIONS
19	A Real-Time Iterative Machine Learning Approach for Temperature Profile Prediction in Additive Manufacturing Processes. , 2019, , .		29
20	Enabling deeper learning on big data for materials informatics applications. Scientific Reports, 2021, 11, 4244.	3.3	29
21	A case study for scientific I/O: improving the FLASH astrophysics code. Computational Science & Discovery, 2012, 5, 015001.	1.5	26
22	Using Subfiling to Improve Programming Flexibility and Performance of Parallel Shared-file I/O. , 2009, , .		23
23	IRNet. , 2019, , .		23
24	Parallel Deep Convolutional Neural Network Training by Exploiting the Overlapping of Computation and Communication. , 2017, , .		21
25	A New Flexible MPI Collective I/O Implementation. , 2006, , .		19
26	Design and Evaluation of MPI File Domain Partitioning Methods under Extent-Based File Locking Protocol. IEEE Transactions on Parallel and Distributed Systems, 2011, 22, 260-272.	5.6	17
27	Materials discovery: Understanding polycrystals from large-scale electron patterns. , 2016, , .		17
28	Parallel hierarchical clustering on shared memory platforms. , 2012, , .		16
29	Delegation-Based I/O Mechanism for High Performance Computing Systems. IEEE Transactions on Parallel and Distributed Systems, 2012, 23, 271-279.	5.6	16
30	IOPin: Runtime Profiling of Parallel I/O in HPC Systems. , 2012, , .		15
31	High performance data clustering: a comparative analysis of performance for GPU, RASC, MPI, and OpenMP implementations. Journal of Supercomputing, 2014, 70, 284-300.	3.6	14
32	Learning to Predict Crystal Plasticity at the Nanoscale: Deep Residual Networks and Size Effects in Uniaxial Compression Discrete Dislocation Simulations. Scientific Reports, 2020, 10, 8262.	3.3	14
33	Moving closer to experimental level materials property prediction using AI. Scientific Reports, 2022, 12, .	3.3	14
34	Scalable high-level caching for parallel I/O. , 0, , .		13
35	Combining I/O operations for multiple array variables in parallel netCDF. , 2009, , .		13
36	HIGH UTILITY ITEMSETS MINING. International Journal of Information Technology and Decision Making, 2010, 09, 905-934.	3.9	13

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37	Efficient pairwise statistical significance estimation for local sequence alignment using GPU. , 2011, , .		13
38	A new hybrid technique for modeling dense star clusters. Computational Astrophysics and Cosmology, 2018, 5, .	22.7	12
39	High Performance Data Mining Using R on Heterogeneous Platforms. , 2011, , .		11
40	Transfer Learning Using Ensemble Neural Networks for Organic Solar Cell Screening. , 2019, , .		11
41	Scalable Design and Implementations for MPI Parallel Overlapping I/O. IEEE Transactions on Parallel and Distributed Systems, 2006, 17, 1264-1276.	5.6	10
42	Reducing I/O variability using dynamic I/O path characterization in petascale storage systems. Journal of Supercomputing, 2017, 73, 2069-2097.	3.6	10
43	A flexible I/O arbitration framework for netCDFâ€based big data processing workflows on highâ€end supercomputers. Concurrency Computation Practice and Experience, 2017, 29, e4161.	2.2	10
44	Peak Area Detection Network for Directly Learning Phase Regions from Raw X-ray Diffraction Patterns. , 2019, , .		10
45	Data Sampling Schemes for Microstructure Design with Vibrational Tuning Constraints. AIAA Journal, 2018, 56, 1239-1250.	2.6	9
46	Deep learning based domain knowledge integration for small datasets: Illustrative applications in materials informatics. , 2019, , .		9
47	Improving MPI Collective I/O for High Volume Non-Contiguous Requests With Intra-Node Aggregation. IEEE Transactions on Parallel and Distributed Systems, 2020, 31, 2682-2695.	5.6	8
48	Improving collective I/O performance by pipelining request aggregation and file access. , 2013, , .		7
49	Improving MPI Independent Write Performance Using A Two-Stage Write-Behind Buffering Method. , 2007, , .		6
50	Community Dynamics and Analysis of Decadal Trends in Climate Data. , 2011, , .		6
51	Supporting computational data model representation with high-performance I/O in parallel netCDF. , 2011, , .		6
52	Parallel DTFE Surface Density Field Reconstruction. , 2016, , .		6
53	Scalable Algorithms for MPI Intergroup Allgather and Allgatherv. Parallel Computing, 2019, 85, 220-230.	2.1	5
54	Improving All-to-Many Personalized Communication in Two-Phase I/O. , 2020, , .		5

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55	Design and evaluation of a parallel HOP clustering algorithm for cosmological simulation. , 0, , .		3
56	pFANGS: Parallel high speed sequence mapping for Next Generation 454-roche Sequencing reads. , 2010, , .		3
57	Parallel Implementation of Lossy Data Compression for Temporal Data Sets. , 2016, , .		3
58	Processor-embedded distributed MEMS-based storage systems for high-performance I/O. , 0, , .		2
59	GPU-accelerated Monte Carlo simulations of dense stellar systems. , 2012, , .		2
60	Analyzing Informal Caregiving Expression in Social Media. , 2017, , .		2
61	Building Halo Merger Trees from the Q Continuum Simulation. , 2017, , .		2
62	Full-Duplex Inter-Group All-to-All Broadcast Algorithms with Optimal Bandwidth. , 2018, , .		2
63	Data-Driven Insights from Predictive Analytics on Heterogeneous Experimental Data of Industrial Magnetic Materials. , 2019, , .		2
64	Optimizing Performance of Parallel I/O Accesses to Non-contiguous Blocks in Multiple Array Variables. , 2021, , .		2
65	Dynamic file striping and data layout transformation on parallel system with fluctuating I/O workload. , 2013, , .		1
66	PinterNet: A thematic label curation tool for large image datasets. , 2016, , .		1
67	Towards Identifying Informal Caregivers of Alzheimerâ€™s and Dementia Patients in Social Media. , 2017, , .		1
68	SIGRNN: Synthetic Minority Instances Generation in Imbalanced Datasets using a Recurrent Neural Network. , 2021, , .		1
69	Enhancing Phase Mapping for High-throughput X-ray Diffraction Experiments using Fuzzy Clustering. , 2021, , .		1
70	Design and Evaluation of Database Layouts for MEMS-Based Storage Systems. , 0, , .		0
71	IOPro: a parallel I/O profiling and visualization framework for high-performance storage systems. Journal of Supercomputing, 2015, 71, 840-870.	3.6	0