Randal C Burns

List of Publications by Year
in descending order

78 papers	5,185 citations	394286 19 h-index	289141 40 g-index
83 all docs	83 docs citations	83 times ranked	4521 citing authors

#	Article	IF	Citations
1	Provable data possession at untrusted stores. , 2007, , .		1,490
2	Saturated Reconstruction of a Volume of Neocortex. Cell, 2015, 162, 648-661.	13.5	870
3	A public turbulence database cluster and applications to study Lagrangian evolution of velocity increments in turbulence. Journal of Turbulence, 2008, 9, N31.	0.5	373
4	MR-PDP: Multiple-Replica Provable Data Possession. , 2008, , .		312
5	Remote data checking using provable data possession. ACM Transactions on Information and System Security, 2011, 14, 1-34.	4.5	288
6	Whole-brain serial-section electron microscopy in larval zebrafish. Nature, 2017, 545, 345-349.	13.7	282
7	Flux-freezing breakdown in high-conductivity magnetohydrodynamic turbulence. Nature, 2013, 497, 466-469.	13.7	143
8	A Web services accessible database of turbulent channel flow and its use for testing a new integral wall model for LES. Journal of Turbulence, 2016, 17, 181-215.	0.5	135
9	Remote data checking for network coding-based distributed storage systems. , 2010, , .		125
10	Data exploration of turbulence simulations using a database cluster. , 2007, , .		114
11	Ext3cow: a time-shifting file system for regulatory compliance. ACM Transactions on Storage, 2005, 1, 190-212.	1.4	103
12	Robust remote data checking. , 2008, , .		65
13	Studying Lagrangian dynamics of turbulence using on-demand fluid particle tracking in a public turbulence database. Journal of Turbulence, 2012, 13, N12.	0.5	56
14	Compactly encoding unstructured inputs with differential compression. Journal of the ACM, 2002, 49, 318-367.	1.8	54
15	A community-developed open-source computational ecosystem for big neuro data. Nature Methods, 2018, 15, 846-847.	9.0	51
16	Parallel Poisson Surface Reconstruction. Lecture Notes in Computer Science, 2009, , 678-689.	1.0	50
17	To the Cloud! A Grassroots Proposal to Accelerate Brain Science Discovery. Neuron, 2016, 92, 622-627.	3.8	46
18	Authenticating network attached storage. IEEE Micro, 2000, 20, 49-57.	1.8	39

#	Article	IF	Citations
19	The open connectome project data cluster. , 2013, , .		38
20	Wireless sensor networks for soil science. International Journal of Sensor Networks, 2010, 7, 53.	0.2	32
21	CoScan. , 2011, , .		32
22	A resource from 3D electron microscopy of hippocampal neuropil for user training and tool development. Scientific Data, 2015, 2, 150046.	2.4	32
23	Toward millions of file system IOPS on low-cost, commodity hardware. , 2013, , .		24
24	The Johns Hopkins Turbulence Databases: An Open Simulation Laboratory for Turbulence Research. Computing in Science and Engineering, 2015, 17, 10-17.	1.2	24
25	Semi-External Memory Sparse Matrix Multiplication for Billion-Node Graphs. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 1470-1483.	4.0	22
26	Science in the cloud (SIC): A use case in MRI connectomics. GigaScience, 2017, 6, 1-10.	3.3	22
27	From Cosmos to Connectomes: The Evolution of Data-Intensive Science. Neuron, 2014, 83, 1249-1252.	3.8	20
28	Supervised dimensionality reduction for big data. Nature Communications, 2021, 12, 2872.	5.8	20
29	CA-NFS. ACM Transactions on Storage, 2009, 5, 1-24.	1.4	18
30	An automated images-to-graphs framework for high resolution connectomics. Frontiers in Neuroinformatics, 2015, 9, 20.	1.3	18
31	Automated physical design in database caches. , 2008, , .		14
32	A Workload-Driven Unit of Cache Replacement for Mid-Tier Database Caching. , 2007, , 374-385.		14
33	Efficient data distribution in a Web server farm. IEEE Internet Computing, 2001, 5, 56-65.	3.2	13
34	Network-Aware Join Processing in Global-Scale Database Federations. , 2008, , .		13
35	In-place reconstruction of version differences. IEEE Transactions on Knowledge and Data Engineering, 2003, 15, 973-984.	4.0	12
36	Handling Heterogeneity in Shared-Disk File Systems. , 2003, , .		12

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37	Prototype System for Multidisciplinary Shared Cyberinfrastructure: Chesapeake Bay Environmental Observatory. Journal of Hydrologic Engineering - ASCE, 2008, 13, 960-970.	0.8	12
38	Computing scalable multivariate glocal invariants of large (brain-) graphs. , 2013, , .		12
39	Toward Community-Driven Big Open Brain Science: Open Big Data and Tools for Structure, Function, and Genetics. Annual Review of Neuroscience, 2020, 43, 441-464.	5.0	12
40	Analysis of geometrical and statistical features of Lagrangian stretching in turbulent channel flow using a database task-parallel particle tracking algorithm. Physical Review Fluids, 2017, 2, .	1.0	12
41	Synaptic molecular imaging in spared and deprived columns of mouse barrel cortex with array tomography. Scientific Data, 2014, 1, 140046.	2.4	11
42	NFS-CD: Write-Enabled Cooperative Caching in NFS. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 323-333.	4.0	9
43	JAWS: Job-Aware Workload Scheduling for the Exploration of Turbulence Simulations. , 2010, , .		9
44	MIGRAINE: MRI Graph Reliability Analysis and Inference for Connectomics. , 2013, , .		8
45	Remote visual analysis of large turbulence databases at multiple scales. Journal of Parallel and Distributed Computing, 2018, 120, 115-126.	2.7	7
46	Adaptive Physical Design for Curated Archives. Lecture Notes in Computer Science, 2009, , 148-166.	1.0	7
47	FastAD. Operating Systems Review (ACM), 2010, 44, 45-49.	1.5	6
48	Extreme Event Analysis in Next Generation Simulation Architectures. Lecture Notes in Computer Science, 2017, , 277-293.	1.0	6
49	Verifiable audit trails for a versioning file system. , 2005, , .		5
50	An architecture for a data-intensive computer. , 2011, , .		5
51	knor. , 2017, , .		5
52	Agni. , 2019, , .		5
53	Inverted indices for particle tracking in petascale cosmological simulations. , 2013, , .		5
54	I/O streaming evaluation of batch queries for data-intensive computational turbulence. , 2011, , .		4

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55	Data-intensive spatial filtering in large numerical simulation datasets. , 2012, , .		4
56	Consistency and locking for distributing updates to web servers using a file system. Performance Evaluation Review, 2000, 28, 15-21.	0.4	4
57	Tunable randomization for load management in shared-disk clusters. ACM Transactions on Storage, 2005, 1, 108-131.	1.4	3
58	Data management and query---Estimating query result sizes for proxy caching in scientific database federations. , 2006, , .		3
59	Scientific data management at the Johns Hopkins institute for data intensive engineering and science. SIGMOD Record, 2011, 39, 18-23.	0.7	3
60	Building NDStore Through Hierarchical Storage Management and Microservice Processing. , 2018, , .		3
61	Automated Design of Assemblable, Modular, Synthetic Chromosomes. Lecture Notes in Computer Science, 2010, , 280-289.	1.0	3
62	Practical protection for personal storage in the cloud. , 2010, , .		3
63	Scalable Session Locking for a Distributed File System. Cluster Computing, 2001, 4, 295-306.	3.5	2
64	Estimating Query Result Sizes for Proxy Caching in Scientific Database Federations. , 2006, , .		2
65	Security constructs for regulatory-compliant storage. Communications of the ACM, 2010, 53, 126-130.	3.3	2
66	The life and death of unwanted bits: Towards proactive waste data management in digital ecosystems. , 2013, , .		2
67	Streaming Algorithms for Halo Finders. , 2015, , .		2
68	FlashR. , 2018, , .		2
69	Data analysis tools for sensor-based science. , 2006, , .		1
70	Building regulatory compliant storage systems. , 2006, , .		1
71	Workload-Aware Histograms for Remote Applications. Lecture Notes in Computer Science, 0, , 402-412.	1.0	1
72	APR-Quad. , 2011, , .		0

#	Article	IF	Citations
73	Particle tracking in open simulation laboratories. , 2015, , .		0
74	BLOCKSET (Block-Aligned Serialized Trees). , 2021, , .		0
75	Poster reception---Engineering the 100 terabyte turbulence database (or how to track particles at) Tj ETQq1 1 0.784314 rgBT /Overlock		0
76	Organizing and indexing non-convex regions. Proceedings of the VLDB Endowment, 2008, 1, 1500-1503.	2.1	0
77	Organization of Data in Non-convex Spatial Domains. Lecture Notes in Computer Science, 2010, , 342-359.	1.0	0
78	FlashR. ACM SIGPLAN Notices, 2018, 53, 183-194.	0.2	0