Luis Ceze

List of Publications by Year
in descending order

64 papers	3,808 citations	218677 26 h-index	197818 49 g-index
74 all docs	74 docs citations	74 times ranked	2182 citing authors

#	Article	IF	Citations
1	Neural Acceleration for General-Purpose Approximate Programs. , 2012, , .		484
2	Random access in large-scale DNA data storage. Nature Biotechnology, 2018, 36, 242-248.	17.5	445
3	Molecular digital data storage using DNA. Nature Reviews Genetics, 2019, 20, 456-466.	16.3	312
4	EnerJ. ACM SIGPLAN Notices, 2011, 46, 164-174.	0.2	243
5	A DNA-Based Archival Storage System. , 2016, , .		147
6	The Bulk Multicore architecture for improved programmability. Communications of the ACM, 2009, 52, 58-65.	4.5	122
7	DeLorean: Recording and Deterministically Replaying Shared-Memory Multiprocessor Execution Ef?ciently. , 2008, , .		121
8	High density DNA data storage library via dehydration with digital microfluidic retrieval. Nature Communications, 2019, 10, 1706.	12.8	99
9	Atom-Aid: Detecting and Surviving Atomicity Violations. , 2008, , .		97
10	SNNAP: Approximate computing on programmable SoCs via neural acceleration. , 2015, , .		86
11	Demonstration of End-to-End Automation of DNA Data Storage. Scientific Reports, 2019, 9, 4998.	3.3	81
12	Bulk Disambiguation of Speculative Threads in Multiprocessors. Computer Architecture News, 2006, 34, 227-238.	2.5	80
13	DNA assembly for nanopore data storage readout. Nature Communications, 2019, 10, 2933.	12.8	80
14	Energy-efficient hybrid stochastic-binary neural networks for near-sensor computing. , 2017, , .		74
15	Combining Data Longevity with High Storage Capacityâ€”Layerâ€byâ€Layer DNA Encapsulated in Magnetic Nanoparticles. Advanced Functional Materials, 2019, 29, 1901672.	14.9	65
16	General-purpose code acceleration with limited-precision analog computation. Computer Architecture News, 2014, 42, 505-516.	2.5	63
17	Probing the physical limits of reliable DNA data retrieval. Nature Communications, 2020, 11, 616.	12.8	62
18	A DNA-Based Archival Storage System. Operating Systems Review (ACM), 2016, 50, 637-649.	1.9	59

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19	CoreDet. ACM SIGPLAN Notices, 2010, 45, 53-64.	0.2	58
20	DeLorean. Computer Architecture News, 2008, 36, 289-300.	2.5	53
21	Quantifying molecular bias in DNA data storage. Nature Communications, 2020, 11, 3264.	12.8	53
22	Synthetic DNA applications in information technology. Nature Communications, 2022, 13, 352.	12.8	52
23	DNA Data Storage and Hybrid Molecularâ€"Electronic Computing. Proceedings of the IEEE, 2019, 107, 63-72.	21.3	44
24	Toward a DNA-Based Archival Storage System. IEEE Micro, 2017, 37, 98-104.	1.8	41
25	Stabilizing synthetic DNA for long-term data storage with earth alkaline salts. Chemical Communications, 2020, 56, 3613-3616.	4.1	38
26	CoreDet. Computer Architecture News, 2010, 38, 53-64.	2.5	36
27	A DNA-Based Archival Storage System. ACM SIGPLAN Notices, 2016, 51, 637-649.	0.2	36
28	MATIC: Learning around errors for efficient low-voltage neural network accelerators. , 2018, , .		35
29	Scaling DNA data storage with nanoscale electrode wells. Science Advances, 2021, 7, eabi6714.	10.3	35
30	An Empirical Comparison of Preservation Methods for Synthetic DNA Data Storage. Small Methods, 2021, 5, e2001094.	8.6	34
31	Molecular-level similarity search brings computing to DNA data storage. Nature Communications, 2021, 12, 4764.	12.8	34
32	Energy-Efficient Neural Network Acceleration in the Presence of Bit-Level Memory Errors. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 4285-4298.	5.4	33
33	Characterizing the Performance and Energy Efficiency of Lock-Free Data Structures. , 2011, , .		29
34	Rapid and robust assembly and decoding of molecular tags with DNA-based nanopore signatures. Nature Communications, 2020, 11, 5454.	12.8	29
35	A DNA-Based Archival Storage System. Computer Architecture News, 2016, 44, 637-649.	2.5	28
36	Multiplexed direct detection of barcoded protein reporters on a nanopore array. Nature Biotechnology, 2022, 40, 42-46.	17.5	27

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37	A limit study of JavaScript parallelism. , 2010, , .		26
38	Architecture Considerations for Stochastic Computing Accelerators. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 2277-2289.	2.7	26
39	DDOS. ACM SIGPLAN Notices, 2013, 48, 499-508.	0.2	25
40	A Taxonomy of General Purpose Approximate Computing Techniques. IEEE Embedded Systems Letters, 2018, 10, 2-5.	1.9	25
41	Approximate Computing: Making Mobile Systems More Efficient. IEEE Pervasive Computing, 2015, 14, 9-13.	1.3	24
42	Puddle. , 2019, , .		24
43	Two hardware-based approaches for deterministic multiprocessor replay. Communications of the ACM, 2009, 52, 93-100.	4.5	23
44	DMP: Deterministic Shared-Memory Multiprocessing. IEEE Micro, 2010, 30, 40-49.	1.8	22
45	Checked Load: Architectural support for JavaScript type-checking on mobile processors. , 2011, , .		21
46	Integrating DNA Encapsulates and Digital Microfluidics for Automated Data Storage in DNA. Small, 2022, 18, e2107381.	10.0	21
47	DNA-based molecular architecture with spatially localized components. Computer Architecture News, 2013, 41, 177-188.	2.5	20
48	A Content-Addressable DNA Database with Learned Sequence Encodings. Lecture Notes in Computer Science, 2018, , 55-70.	1.3	20
49	Using Strand Displacing Polymerase To Program Chemical Reaction Networks. Journal of the American Chemical Society, 2020, 142, 9587-9593.	13.7	19
50	High-Density Image Storage Using Approximate Memory Cells. ACM SIGPLAN Notices, 2016, 51, 413-426.	0.2	13
51	Isolating and understanding concurrency errors using reconstructed execution fragments. ACM SIGPLAN Notices, 2011, 46, 378-388.	0.2	11
52	Iterative Search for Reconfigurable Accelerator Blocks With a Compiler in the Loop. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 407-418.	2.7	9
53	Exploring computation-communication tradeoffs in camera systems. , 2017, , .		8
54	Combinatorial PCR Method for Efficient, Selective Oligo Retrieval from Complex Oligo Pools. ACS Synthetic Biology, 2022, 11, 1727-1734.	3.8	8

#	Article	IF	Citations
55	Conflict exceptions. Computer Architecture News, 2010, 38, 210-221.	2.5	6
56	Passively sensing SARS-CoV-2 RNA in public transit buses. Science of the Total Environment, 2022, 821, 152790.	8.0	6
57	A DNA-Based Archival Storage System. IEEE Micro, 2017, , 1-1.	1.8	5
58	PurpleDrop: A Digital Microfluidics-Based Platform for Hybrid Molecular-Electronics Applications. IEEE Micro, 2020, 40, 76-86.	1.8	5
59	RCDC. Computer Architecture News, 2011, 39, 67-78.	2.5	2
60	SoftSig. Operating Systems Review (ACM), 2008, 42, 145-156.	1.9	1
61	Data Race Detection with Minimal Hardware Support. Computer Journal, 2014, 57, 675-692.	2.4	1
62	Scaling Microfluidics to Complex, Dynamic Protocols: Invited Paper. , 2019, , .		1
63	DNA Sequencing Flow Cells and the Security of the Molecular-Digital Interface. Proceedings on Privacy Enhancing Technologies, 2021, 2021, 413-432.	2.8	1
64	ASPLOS Report. IEEE Design and Test, 2020, 37, 119-123.	1.2	0