

Sivan Toledo

List of Publications by Year in descending order

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Version: 2024-02-01

79
papers

1,710
citations

361045

20
h-index

315357

38
g-index

84
all docs

84
docs citations

84
times ranked

1195
citing authors

#	ARTICLE	IF	CITATIONS
1	Big-data approaches lead to an increased understanding of the ecology of animal movement. <i>Science</i> , 2022, 375, eabg1780.	6.0	173
2	Communication lower bounds for distributed-memory matrix multiplication. <i>Journal of Parallel and Distributed Computing</i> , 2004, 64, 1017-1026.	2.7	166
3	Locality of Reference in LU Decomposition with Partial Pivoting. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1997, 18, 1065-1081.	0.7	117
4	Parallel unsymmetric-pattern multifrontal sparse LU with column reordering. <i>ACM Transactions on Mathematical Software</i> , 2008, 34, 1-31.	1.6	117
5	Blendenpik: Supercharging LAPACK's Least-Squares Solver. <i>SIAM Journal of Scientific Computing</i> , 2010, 32, 1217-1236.	1.3	106
6	Cognitive map-based navigation in wild bats revealed by a new high-throughput tracking system. <i>Science</i> , 2020, 369, 188-193.	6.0	98
7	Support-Graph Preconditioners. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2006, 27, 930-951.	0.7	64
8	Exploiting Multiple Levels of Parallelism in Sparse Matrix-Matrix Multiplication. <i>SIAM Journal of Scientific Computing</i> , 2016, 38, C624-C651.	1.3	61
9	Geometry-aware bases for shape approximation. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2005, 11, 171-180.	2.9	54
10	On factor width and symmetric H-matrices. <i>Linear Algebra and Its Applications</i> , 2005, 405, 239-248.	0.4	47
11	The Future Fast Fourier Transform?. <i>SIAM Journal of Scientific Computing</i> , 1998, 20, 1094-1114.	1.3	43
12	Numerical computation of tunneling fluxes. <i>Journal of Chemical Physics</i> , 2002, 117, 10817-10826.	1.2	41
13	Very Large Electronic Structure Calculations Using an Out-of-Core Filter-Diagonalization Method. <i>Journal of Computational Physics</i> , 2002, 180, 256-269.	1.9	40
14	Characterizing the Accuracy of a Self-Synchronized Reverse-GPS Wildlife Localization System. , 2016, , .		40
15	A guide to preprocessing high-throughput animal tracking data. <i>Journal of Animal Ecology</i> , 2022, 91, 287-307.	1.3	40
16	External polygon containment problems. <i>Computational Geometry: Theory and Applications</i> , 1994, 4, 99-118.	0.3	35
17	Movement ecology and sex are linked to barn owl microbial community composition. <i>Molecular Ecology</i> , 2020, 29, 1358-1371.	2.0	33
18	Maximum-weight-basis preconditioners. <i>Numerical Linear Algebra With Applications</i> , 2004, 11, 695-721.	0.9	30

#	ARTICLE	IF	CITATIONS
19	Nested-Dissection Orderings for Sparse LU with Partial Pivoting. SIAM Journal on Matrix Analysis and Applications, 2002, 23, 998-1012.	0.7	25
20	Parallel and fully recursive multifrontal sparse Cholesky. Future Generation Computer Systems, 2004, 20, 425-440.	4.9	24
21	On the Computation of Null Spaces of Sparse Rectangular Matrices. SIAM Journal on Matrix Analysis and Applications, 2008, 30, 445-463.	0.7	24
22	Algebraic analysis of high-pass quantization. ACM Transactions on Graphics, 2005, 24, 1259-1282.	4.9	22
23	Lessons and Experiences from the Design, Implementation, and Deployment of a Wildlife Tracking System. , 2016, , .		22
24	Is habitat selection in the wild shaped by individual-level cognitive biases in orientation strategy?. Ecology Letters, 2021, 24, 751-760.	3.0	20
25	Lightweight low-cost wildlife tracking tags using integrated transceivers. , 2014, , .		19
26	Ergodicity Breaking in Area-Restricted Search of Avian Predators. Physical Review X, 2022, 12, .	2.8	19
27	Using Perturbed \$QR\$ Factorizations to Solve Linear Least-Squares Problems. SIAM Journal on Matrix Analysis and Applications, 2009, 31, 674-693.	0.7	16
28	Efficient Out-of-Core Algorithms for Linear Relaxation Using Blocking Covers. Journal of Computer and System Sciences, 1997, 54, 332-344.	0.9	15
29	Validating <scp>ATLAS</scp>: A regional-scale high-throughput tracking system. Methods in Ecology and Evolution, 2022, 13, 1990-2004.	2.2	13
30	TRADING REPLICATION FOR COMMUNICATION IN PARALLEL DISTRIBUTED-MEMORY DENSE SOLVERS. Parallel Processing Letters, 2002, 12, 79-94.	0.4	12
31	Partitioned Triangular Tridiagonalization. ACM Transactions on Mathematical Software, 2011, 37, 1-16.	1.6	11
32	Communication-Avoiding Symmetric-Indefinite Factorization. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 1364-1406.	0.7	11
33	Rigidity in Finite-Element Matrices: Sufficient Conditions for the Rigidity of Structures and Substructures. SIAM Journal on Matrix Analysis and Applications, 2008, 30, 7-40.	0.7	10
34	Efficient Dimensionality Reduction for Canonical Correlation Analysis. SIAM Journal of Scientific Computing, 2014, 36, S111-S131.	1.3	9
35	Evaluating batteries for advanced wildlife telemetry tags. IET Wireless Sensor Systems, 2015, 5, 235-242.	1.3	9
36	Approximate parametric searching. Information Processing Letters, 1993, 47, 1-4.	0.4	8

#	ARTICLE	IF	CITATIONS
37	Spatial cognitive ability is associated with transitory movement speed but not straightness during the early stages of exploration. Royal Society Open Science, 2021, 8, 201758.	1.1	8
38	Memory and Conformity, but Not Competition, Explain Spatial Partitioning Between Two Neighboring Fruit Bat Colonies. Frontiers in Ecology and Evolution, 2021, 9, .	1.1	8
39	Combinatorial characterization of the null spaces of symmetric H-matrices. Linear Algebra and Its Applications, 2004, 392, 71-90.	0.4	6
40	The Snap-Back Pivoting Method for Symmetric Banded Indefinite Matrices. SIAM Journal on Matrix Analysis and Applications, 2006, 28, 398-424.	0.7	6
41	The Growth-Factor Bound for the Bunch-Kaufman Factorization Is Tight. SIAM Journal on Matrix Analysis and Applications, 2011, 32, 928-937.	0.7	6
42	Parallel and Fully Recursive Multifrontal Supernodal Sparse Cholesky. Lecture Notes in Computer Science, 2002, , 335-344.	1.0	6
43	A vectorized algorithm for correlation dimension estimation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 229, 375-378.	0.9	5
44	Computing the null space of finite element problems. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3084-3095.	3.4	5
45	Combinatorial Preconditioners for Scalar Elliptic Finite-Element Problems. SIAM Journal on Matrix Analysis and Applications, 2009, 31, 694-720.	0.7	5
46	Secure Association for the Internet of Things. , 2015, , .		4
47	Modulation and Signal-Processing Tradeoffs for Reverse-GPS Wildlife Localization Systems. , 2018, , .		4
48	Physical-Layer Protocols for Lightweight Wildlife Tags with Internet-of-Things Transceivers. , 2018, , .		4
49	Spectral conditionâ€number estimation of large sparse matrices. Numerical Linear Algebra With Applications, 2019, 26, e2235.	0.9	4
50	LSDM: Improving the Performance of Mobile Storage with a Log-Structured Address Remapping Device Driver. , 2014, , .		3
51	A robust, selective, and flexible RF front-end for wideband sampling receivers. ICT Express, 2017, 3, 96-100.	3.3	3
52	On the accuracy of passive hyperbolic localization in the presence of clock drift. , 2017, , .		3
53	Location Estimation from the Ground Up. , 2020, , .		3
54	An automatically-tuned sorting library. Software - Practice and Experience, 2007, 37, 1161-1192.	2.5	2

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55	Combinatorial preconditioners for scalar elliptic finite-element problems. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1010805-1010806.	0.2	2
56	Segmentation and Analysis of Bird Trill Vocalizations. , 2018, , .		2
57	A Method for Automatic Segmentation and Parameter Estimation of Bird Vocalizations. , 2019, , .		2
58	Signal processing for a reverse-GPS wildlife tracking system: CPU and GPU implementation experiences. Concurrency Computation Practice and Experience, 2022, 34, e6506.	1.4	2
59	Storing a persistent transactional object heap on flash memory. ACM SIGPLAN Notices, 2006, 41, 22-33.	0.2	1
60	Storing a Persistent Transactional Object Heap on Flash Memory. , 2007, , .		1
61	Factoring matrices with a tree-structured sparsity pattern. Linear Algebra and Its Applications, 2011, 435, 1099-1110.	0.4	1
62	Differential Multidimensional Scaling for Self-Localization of TDOA Sensor Networks. , 2017, , .		1
63	Advances in Incremental PCA Algorithms. Lecture Notes in Computer Science, 2018, , 3-13.	1.0	1
64	Efficient Evaluation of Matrix Polynomials. Lecture Notes in Computer Science, 2018, , 24-35.	1.0	1
65	Wilkinson's inertia-revealing factorization and its application to sparse matrices. Numerical Linear Algebra With Applications, 2018, 25, e2130.	0.9	1
66	Where to Rendezvous?. , 2018, , .		1
67	Enhanced situation space mining for data streams. , 2017, , .		1
68	Parallel and fully recursive multifrontal sparse Cholesky. Future Generation Computer Systems, 2003, 20, 425-425.	4.9	0
69	Editorial introduction to the special issue on computational linear algebra and sparse matrix computations. Applicable Algebra in Engineering, Communications and Computing, 2007, 18, 205-207.	0.3	0
70	Solving Hermitian positive definite systems using indefinite incomplete factorizations. Journal of Computational and Applied Mathematics, 2013, 243, 126-138.	1.1	0
71	Proper timed I/O. , 2015, , .		0
72	Proper Timed I/O. , 2016, , .		0

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73	High-performance direct algorithms for computing the sign function of triangular matrices. Numerical Linear Algebra With Applications, 2018, 25, e2139.	0.9	0
74	Parallel Algorithms for Evaluating Matrix Polynomials. , 2019, , .		0
75	The cocked hat: formal statements and proofs of the theorems. Journal of Navigation, 2021, 74, 713-722.	1.0	0
76	A mixed-integer least-squares formulation of the GNSS snapshot positioning problem. Journal of Navigation, 2021, 74, 1267-1283.	1.0	0
77	Combinatorial Preconditioners. Chapman & Hall/CRC Computational Science, 2012, , 69-93.	0.5	0
78	Experiences with a Lanczos Eigensolver in High-Precision Arithmetic. Lecture Notes in Computer Science, 2014, , 36-46.	1.0	0
79	Storing a Persistent Transactional Object Heap on Flash Memory. , 2007, , .		0