Eli Upfal

List of Publications by Year
in descending order

151 papers	7,175 citations	159585 30 h-index	110387 64 g-index
155 all docs	155 docs citations	155 times ranked	4531 citing authors

#	Article	IF	Citations
1	Balanced Allocations. SIAM Journal on Computing, 1999, 29, 180-200.	1.0	493
2	Algorithms for Detecting Significantly Mutated Pathways in Cancer. Journal of Computational Biology, 2011, 18, 507-522.	1.6	434
3	De novo discovery of mutated driver pathways in cancer. Genome Research, 2012, 22, 375-385.	5.5	391
4	A trade-off between space and efficiency for routing tables. Journal of the ACM, 1989, 36, 510-530.	2.2	294
5	Constructing a perfect matching is in random NC. Combinatorica, 1986, 6, 35-48.	1.2	209
6	Efficient algorithms for all-to-all communications in multiport message-passing systems. IEEE Transactions on Parallel and Distributed Systems, 1997, 8, 1143-1156.	5.6	200
7	Computing with Noisy Information. SIAM Journal on Computing, 1994, 23, 1001-1018.	1.0	194
8	Randomized broadcast in networks. Random Structures and Algorithms, 1990, 1, 447-460.	1.1	168
9	Efficient routing in all-optical networks. , 1994, , .		167
10	How to share memory in a distributed system. Journal of the ACM, 1987, 34, 116-127.	2.2	121
11	Learning-based Query Performance Modeling and Prediction. , 2012, , .		118
12	Efficient Schemes for Parallel Communication. Journal of the ACM, 1984, 31, 507-517.	2.2	117
13	Building low-diameter peer-to-peer networks. IEEE Journal on Selected Areas in Communications, 2003, 21, 995-1002.	14.0	115
14	Performance prediction for concurrent database workloads. , 2011, , .		96
15	PARMA. , 2012, , .		83
16	Fault Tolerance in Networks of Bounded Degree. SIAM Journal on Computing, 1988, 17, 975-988.	1.0	82
17	The Token Distribution Problem. SIAM Journal on Computing, 1989, 18, 229-243.	1.0	78
18	Balanced allocations (extended abstract). , 1994, , .		78

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19	TRIÃˆST. ACM Transactions on Knowledge Discovery From Data, 2017, 11, 1-50.	3.5	78
20	An O (log N) deterministic packet-routing scheme. Journal of the ACM, 1992, 39, 55-70.	2.2	77
21	The complexity of parallel search. Journal of Computer and System Sciences, 1988, 36, 225-253.	1.2	71
22	A tradeoff between space and efficiency for routing tables. , 1988, , .		65
23	Discovery of mutated subnetworks associated with clinical data in cancer. Pacific Symposium on Biocomputing Pacific Symposium on Biocomputing, 2012, , 55-66.	0.7	60
24	DISCOVERY OF MUTATED SUBNETWORKS ASSOCIATED WITH CLINICAL DATA IN CANCER. , 2011, , .		59
25	Existence and Construction of Edge-Disjoint Paths on Expander Graphs. SIAM Journal on Computing, 1994, 23, 976-989.	1.0	56
26	Stochastic Contention Resolution With Short Delays. SIAM Journal on Computing, 1998, 28, 709-719.	1.0	50
27	Fast distributed PageRank computation. Theoretical Computer Science, 2015, 561, 113-121.	0.9	49
28	Parallel hashing. Journal of the ACM, 1988, 35, 876-892.	2.2	48
29	ABRA. ACM Transactions on Knowledge Discovery From Data, 2018, 12, 1-38.	3.5	44
30	Controlling False Discoveries During Interactive Data Exploration. , 2017, , .		42
31	PageRank on an evolving graph. , 2012, , .		41
32	Using PageRank to Characterize Web Structure. Internet Mathematics, 2006, 3, 1-20.	0.7	40
33	Space-round tradeoffs for MapReduce computations. , 2012, , .		39
34	Constructing disjoint paths on expander graphs. Combinatorica, 1989, 9, 289-313.	1.2	38
35	A Time-Space Tradeoff for Element Distinctness. SIAM Journal on Computing, 1987, 16, 97-99.	1.0	37
36	<title>Updates to the QBIC system</title>. , 1997, , .		37

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37	Fast Distributed PageRank Computation. Lecture Notes in Computer Science, 2013, , 11-26.	1.3	37
38	Towards Robust and Efficient Computation in Dynamic Peer-to-Peer Networks. , 2012, , .		37
39	Tight bounds on information dissemination in sparse mobile networks. , 2011, , .		35
40	TRIÃˆST. , 2016, , .		35
41	Optimal Construction of Edge-Disjoint Paths in Random Graphs. SIAM Journal on Computing, 1998, 28, 541-573.	1.0	33
42	A simple and deterministic competitive algorithm for online facility location. Information and Computation, 2004, 194, 175-202.	0.7	33
43	Mining top-K frequent itemsets through progressive sampling. Data Mining and Knowledge Discovery, 2010, 21, 310-326.	3.7	33
44	Online stochastic optimization under time constraints. Annals of Operations Research, 2010, 177, 151-183.	4.1	33
45	The generalized packet routing problem. Theoretical Computer Science, 1987, 53, 281-293.	0.9	32
46	A time-randomness tradeoff for oblivious routing. , 1988, , .		32
47	Optimal Reconstruction of a Sequence from its Probes. Journal of Computational Biology, 1999, 6, 361-368.	1.6	32
48	Randomized broadcast in networks. Lecture Notes in Computer Science, 1990, , 128-137.	1.3	32
49	Efficient schemes for parallel communication. , 1982, , .		30
50	Commitment under uncertainty: Two-stage stochastic matching problems. Theoretical Computer Science, 2008, 408, 213-223.	0.9	29
51	Efficient Discovery of Association Rules and Frequent Itemsets through Sampling with Tight Performance Guarantees. ACM Transactions on Knowledge Discovery From Data, 2014, 8, 1-32.	3.5	29
52	Mining Frequent Itemsets through Progressive Sampling with Rademacher Averages. , 2015, , .		29
53	Trading Space for Time in Undirected s-t Connectivity. SIAM Journal on Computing, 1994, 23, 324-334.	1.0	28
54	Sequencing-by-Hybridization at the Information-Theory Bound: An Optimal Algorithm. Journal of Computational Biology, 2000, 7, 621-630.	1.6	28

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55	Storage and search in dynamic peer-to-peer networks. , 2013, , .		27
56	The Melbourne Shuffle: Improving Oblivious Storage in the Cloud. Lecture Notes in Computer Science, 2014, , 556-567.	1.3	27
57	Static and Dynamic Path Selection on Expander Graphs: A Random Walk Approach. Random Structures and Algorithms, 1999, 14, 87-109.	1.1	26
58	ABRA. , 2016, , .		26
59	On factors in random graphs. Israel Journal of Mathematics, 1981, 39, 296-302.	0.8	25
60	Enabling Robust and Efficient Distributed Computation in Dynamic Peer-to-Peer Networks. , 2015, , .		25
61	Accurate Computation of Survival Statistics in Genome-Wide Studies. PLoS Computational Biology, 2015, 11, e1004071.	3.2	24
62	Scalable Betweenness Centrality Maximization via Sampling. , 2016, , .		24
63	Sequential and distributed graph coloring algorithms with performance analysis in random graph spaces. Journal of Algorithms, 1984, 5, 488-501.	0.9	23
64	Bandits and Experts in Metric Spaces. Journal of the ACM, 2019, 66, 1-77.	2.2	23
65	A probabilistic relation between desirable and feasible, models of parallel computation. , 1984, , .		22
66	Random hypergraph coloring algorithms and the weak chromatic number. Journal of Graph Theory, 1985, 9, 347-362.	0.9	22
67	A theory of wormhole routing in parallel computers. IEEE Transactions on Computers, 1996, 45, 704-713.	3.4	22
68	Finding near neighbors through cluster pruning. , 2007, , .		21
69	Algorithms on evolving graphs. , 2012, , .		21
70	Dynamic deflection routing on arrays (preliminary version). , 1996, , .		20
71	An Efficient Rigorous Approach for Identifying Statistically Significant Frequent Itemsets. Journal of the ACM, 2012, 59, 1-22.	2.2	20
72	One-factor in random graphs based on vertex choice. Discrete Mathematics, 1982, 41, 281-286.	0.7	19

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73	A tradeoff between search and update time for the implicit dictionary problem. Theoretical Computer Science, 1988, 58, 57-68.	0.9	18
74	How much can hardware help routing?. , 1993, , .		18
75	Finding driver pathways in cancer: models and algorithms. Algorithms for Molecular Biology, 2012, 7, 23.	1.2	18
76	Algorithms for Detecting Significantly Mutated Pathways in Cancer. Lecture Notes in Computer Science, 2010, , 506-521.	1.3	18
77	A Steady State Analysis of Diffracting Trees. Theory of Computing Systems, 1998, 31, 403-423.	1.1	17
78	A probabilistic approach to the load-sharing problem in distributed systems. Journal of Parallel and Distributed Computing, 1987, 4, 521-530.	4.1	16
79	RePBubLik: Reducing Polarized Bubble Radius with Link Insertions. , 2021, , .		16
80	An efficient rigorous approach for identifying statistically significant frequent itemsets. , 2009, , .		15
81	MapReduce and streaming algorithms for diversity maximization in metric spaces of bounded doubling dimension. Proceedings of the VLDB Endowment, 2017, 10, 469-480.	3.8	15
82	A Time-Randomness Trade-Off for Oblivious Routing. SIAM Journal on Computing, 1990, 19, 256-266.	1.0	14
83	MADMX: A Strategy for Maximal Dense Motif Extraction. Journal of Computational Biology, 2011, 18, 535-545.	1.6	14
84	Efficient Discovery of Association Rules and Frequent Itemsets through Sampling with Tight Performance Guarantees. Lecture Notes in Computer Science, 2012, , 25-41.	1.3	13
85	The token distribution problem. , 1986, , .		12
86	The worst-case running time of the random simplex algorithm is exponential in the height. Information Processing Letters, 1995, 56, 79-81.	0.6	12
87	A Practical Parallel Algorithm for Diameter Approximation of Massive Weighted Graphs. , 2016, , .		12
88	The Hiring Problem and Lake Wobegon Strategies. SIAM Journal on Computing, 2010, 39, 1233-1255.	1.0	11
89	Space and Time Efficient Parallel Graph Decomposition, Clustering, and Diameter Approximation. , 2015, , .		11
90	Algorithms and Genome Sequencing: Identifying Driver Pathways in Cancer. Computer, 2012, 45, 39-46.	1.1	10

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91	Towards Interactive Curation & Automatic Tuning of ML Pipelines. , 2018, , .		10
92	De Novo Discovery of Mutated Driver Pathways in Cancer. Lecture Notes in Computer Science, 2011, , 499-500.	1.3	9
93	The VC-Dimension of SQL Queries and Selectivity Estimation through Sampling. Lecture Notes in Computer Science, 2011, , 661-676.	1.3	9
94	The parallel complexity of scheduling with precedence constraints. Journal of Parallel and Distributed Computing, 1986, 3, 553-576.	4.1	8
95	Existence and construction of edge disjoint paths on expander graphs. , 1992, , .		8
96	A general approach to dynamic packet routing with bounded buffers. Journal of the ACM, 2001, 48, 324-349.	2.2	8
97	On-line routing of random calls in networks. Probability Theory and Related Fields, 2003, 125, 457-482.	1.8	8
98	Reliable Fault Diagnosis with Few Tests. Combinatorics Probability and Computing, 1998, 7, 323-333.	1.3	7
99	Efficient communication in an ad-hoc network. Journal of Algorithms, 2004, 52, 1-7.	0.9	7
100	Database-support for continuous prediction queries over streaming data. Proceedings of the VLDB Endowment, 2010, 3, 1291-1301.	3.8	7
101	Differentially mutated subnetworks discovery. Algorithms for Molecular Biology, 2019, 14, 10.	1.2	7
102	Static and dynamic path selection on expander graphs (preliminary version). , 1997, , .		6
103	Load Balancing in Arbitrary Network Topologies with Stochastic Adversarial Input. SIAM Journal on Computing, 2005, 34, 616-639.	1.0	6
104	Entropy-based bounds for online algorithms. ACM Transactions on Algorithms, 2007, 3, 1-19.	1.0	6
105	On the Sample Complexity of Cancer Pathways Identification. Journal of Computational Biology, 2016, 23, 30-41.	1.6	6
106	N-processors graphs distributively achieve perfect matchings in O(log2N) beats. , 1982, , .		5
107	The complexity of parallel computation on matroids. , 1985, , .		5
108	Near-perfect token distribution. Random Structures and Algorithms, 1994, 5, 559-572.	1.1	5

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109	How much can hardware help routing?. Journal of the ACM, 1997, 44, 726-741.	2.2	5
110	MADMX: A Novel Strategy for Maximal Dense Motif Extraction. Lecture Notes in Computer Science, 2009, , 362-374.	1.3	5
111	Distributed agreement in dynamic peer-to-peer networks. Journal of Computer and System Sciences, 2015, 81, 1088-1109.	1.2	5
112	A tradeoff between search and update time for the implicit dictionary problem. Lecture Notes in Computer Science, 1986, , 50-59.	1.3	5
113	A wait-free sorting algorithm. , 1997, , .		4
114	Safe Visual Data Exploration. , 2017, , .		4
115	A Rademacher Complexity Based Method for Controlling Power and Confidence Level in Adaptive Statistical Analysis. , 2019, , .		4
116	Distributed Graph Diameter Approximation. Algorithms, 2020, 13, 216.	2.1	4
117	Sort Me If You Can: How to Sort Dynamic Data. Lecture Notes in Computer Science, 2009, , 339-350.	1.3	4
118	Randomized routing with shorter paths. , 1993, , .		3
119	Steady state analysis of balanced-allocation routing. Random Structures and Algorithms, 2005, 26, 446-467.	1.1	3
120	A fast construction of disjoint paths in communication networks. Lecture Notes in Computer Science, 1983, , 428-438.	1.3	3
121	An experimental study of wormhole routing in parallel computers. Lecture Notes in Computer Science, 1993, , 156-165.	1.3	3
122	Dynamic packet routing on arrays with bounded buffers. Lecture Notes in Computer Science, 1998, , 273-281.	1.3	2
123	A learned comparative expression measure for Affymetrix genechip DNA microarrays. , 2005, , 144-54.		2
124	Sorting and selection on dynamic data. Theoretical Computer Science, 2011, 412, 2564-2576.	0.9	2
125	VC-Dimension and Rademacher Averages. , 2015, , .		2
126	Real-Time Targeted-Influence Queries over Large Graphs. , 2017, , .		2

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127	Efficient Approximation for Restricted Biclique Cover Problems. Algorithms, 2018, 11, 84.	2.1	2
128	Static and Dynamic Path Selection on Expander Graphs: A Random Walk Approach. , 1999, 14, 87.		2
129	A Fast Parallel Construction of Disjoint Paths in Networks. North-Holland Mathematics Studies, 1985, 102, 141-153.	0.2	1
130	Real-Time Communication Scheduling in a Multicomputer Video Server. Journal of Parallel and Distributed Computing, 1999, 58, 425-445.	4.1	1
131	Balanced Allocation: Patience is not a Virtue. , 2016, , .		1
132	The k-Nearest Representatives Classifier: A Distance-Based Classifier with Strong Generalization Bounds. , 2017, , .		1
133	VizCertify: A Framework for Secure Visual Data Exploration. , 2019, , .		1
134	Tiered Sampling. ACM Transactions on Knowledge Discovery From Data, 2021, 15, 1-52.	3.5	1
135	On the theory of interconnection networks for parallel computers. Lecture Notes in Computer Science, 1994, , 473-486.	1.3	1
136	Safe and efficient traffic laws for mobile robots. Lecture Notes in Computer Science, 1996, , 357-367.	1.3	1
137	Design and Analysis of Dynamic Processes: A Stochastic Approach (Invited Paper). Lecture Notes in Computer Science, 1998, , 26-34.	1.3	1
138	Towards Interactive Data Exploration. Lecture Notes in Business Information Processing, 2019, , 177-190.	1.0	1
139	STATIC AND DYNAMIC EVALUATION OF QoS PROPERTIES. Journal of Interconnection Networks, 2000, 01, 135-150.	1.0	0
140	A Wait-Free Sorting Algorithm. Theory of Computing Systems, 2001, 34, 519-544.	1.1	0
141	Efficient methods for computing investment strategies for multi-market commodity trading. Applied Artificial Intelligence, 2001, 15, 429-452.	3.2	0
142	Workshop: Algorithms for discovery of mutated pathways in cancer. , 2012, , .		0
143	Genome-Wide Survival Analysis of Somatic Mutations in Cancer. Lecture Notes in Computer Science, 2013, , 285-286.	1.3	0
144	Identifying significant mutations in large cohorts of cancer genomes. , 2013, , .		0

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145	On the Sample Complexity of Cancer Pathways Identification. Lecture Notes in Computer Science, 2015, , 326-337.	1.3	0
146	Wiggins. , 2016, , .		0
147	Minimizing operational cost for zero information leakage. , 2017, , .		0
148	Optimizing static and adaptive probing schedules for rapid event detection. Theoretical Computer Science, 2019, 774, 14-30.	0.9	0
149	Sequence Reconstruction from Nucleic Acid Microarray Data*. , 2005, , .		0
150	Finding Driver Pathways in Cancer: Models and Algorithms. Lecture Notes in Computer Science, 2011, , 314-325.	1.3	0
151	Stochastic analysis of dynamic processes. Lecture Notes in Computer Science, 1997, , 85-92.	1.3	0