Cheng-Shang Chang

List of Publications by Year
in descending order

117	3,423	304368	189595
papers	citations	22	50
		h-index	g-index

117	117	117	1410
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	On the Stability Regions of Coded Poisson Receivers With Multiple Classes of Users and Receivers. IEEE/ACM Transactions on Networking, 2023, 31, 234-247.	2.6	1
2	Constructions and Comparisons of Pooling Matrices for Pooled Testing of COVID-19. IEEE Transactions on Network Science and Engineering, 2022, 9, 467-480.	4.1	7
3	ALOHA Receivers: A Network Calculus Approach for Analyzing Coded Multiple Access With SIC. IEEE/ACM Transactions on Networking, 2022, 30, 840-854.	2.6	3
4	Explainable, Stable, and Scalable Network Embedding Algorithms for Unsupervised Learning of Graph Representations. IEEE Transactions on Computational Social Systems, 2022, , 1-18.	3.2	0
5	Poisson Receivers: A Probabilistic Framework for Analyzing Coded Random Access. IEEE/ACM Transactions on Networking, 2021, 29, 862-875.	2.6	10
6	Positively Correlated Samples Save Pooled Testing Costs. IEEE Transactions on Network Science and Engineering, 2021, 8, 2170-2182.	4.1	15
7	On the Theoretical Gap of Channel Hopping Sequences With Maximum Rendezvous Diversity in the Multichannel Rendezvous Problem. IEEE/ACM Transactions on Networking, 2021, 29, 1620-1633.	2.6	17
8	PPoL: A Periodic Channel Hopping Sequence with Nearly Full Rendezvous Diversity. , 2021, , .		1
9	A Time-Dependent SIR Model for COVID-19 With Undetectable Infected Persons. IEEE Transactions on Network Science and Engineering, 2020, 7, 3279-3294.	4.1	277
10	Percolation Threshold for Competitive Influence in Random Networks. IEEE Transactions on Computational Social Systems, 2020, 7, 991-1003.	3.2	1
11	Using Graph Convolutional Networks to Compute Approximations of Dominant Eigenvectors. Performance Evaluation Review, 2020, 48, 3-5.	0.4	0
12	Asynchronous Grant-Free Uplink Transmissions in Multichannel Wireless Networks With Heterogeneous QoS Guarantees. IEEE/ACM Transactions on Networking, 2019, 27, 1584-1597.	2.6	18
13	Centrality Analysis in d -Regular Directed Acyclic Random Networks and Its Applications in Top-k Recommendations. IEEE Transactions on Computational Social Systems, 2019, 6, 968-980.	3.2	3
14	A Reinforcement Learning Approach for the Multichannel Rendezvous Problem. , 2019, , .		8
15	Exponentially Twisted Sampling for Centrality Analysis and Community Detection in Attributed Networks. IEEE Transactions on Network Science and Engineering, 2019, 6, 684-697.	4.1	7
16	Tracking Network Evolution and Their Applications in Structural Network Analysis. IEEE Transactions on Network Science and Engineering, 2019, 6, 562-575.	4.1	18
17	Temporal Matrix Factorization for Tracking Concept Drift in Individual User Preferences. IEEE Transactions on Computational Social Systems, 2018, 5, 156-168.	3.2	39
18	Greenput: A Power-Saving Algorithm That Achieves Maximum Throughput in Wireless Networks. IEEE/ACM Transactions on Networking, 2018, 26, 906-919.	2.6	1

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19	A Probabilistic Framework for Structural Analysis and Community Detection in Directed Networks. IEEE/ACM Transactions on Networking, 2018, 26, 31-46.	2.6	15
20	A Fast Multi-Radio Rendezvous Algorithm in Heterogeneous Cognitive Radio Networks. , 2018, , .		6
21	An Enhanced Fast Multi-Radio Rendezvous Algorithm in Heterogeneous Cognitive Radio Networks. IEEE Transactions on Cognitive Communications and Networking, 2018, 4, 847-859.	4.9	17
22	A Mathematical Theory for Multistage Battery Switching Networks. IEEE Transactions on Network Science and Engineering, 2018, 5, 171-183.	4.1	3
23	Nonadaptive Deterministic Asynchronous Conflict Resolution. IEEE Communications Letters, 2018, 22, 1168-1171.	2.5	1
24	Exponentially Twisted Sampling for Centrality Analysis in Attributed Networks. , 2018, , .		0
25	Greedy Constructions of Optical Queues With a Limited Number of Recirculations. IEEE Transactions on Information Theory, 2017, 63, 5314-5326.	1.5	3
26	Efficient Encoding of User IDs for Nearly Optimal Expected Time-To-Rendezvous in Heterogeneous Cognitive Radio Networks. IEEE/ACM Transactions on Networking, 2017, 25, 3323-3337.	2.6	20
27	Community detection in signed networks: An error-correcting code approach. , 2017, , .		2
28	K-sets$^+$: A linear-time clustering algorithm for data points with a sparse similarity measure. , 2017, , .		3
29	A probabilistic framework for structural analysis in directed networks. , 2016, , .		2
30	Consensus and Polarization of Binary Opinions in Structurally Balanced Networks. IEEE Transactions on Computational Social Systems, 2016, 3, 141-150.	3.2	13
31	Analyses of the Clustering Coefficient and the Pearson Degree Correlation Coefficient of Chung's Duplication Model. IEEE Transactions on Network Science and Engineering, 2016, 3, 117-131.	4.1	8
32	Tight Lower Bounds for Channel Hopping Schemes in Cognitive Radio Networks. IEEE/ACM Transactions on Networking, 2016, 24, 2343-2356.	2.6	29
33	A Mathematical Theory for Clustering in Metric Spaces. IEEE Transactions on Network Science and Engineering, 2016, 3, 2-16.	4.1	20
34	Relative centrality and local community detection. Network Science, 2015, 3, 445-479.	0.8	16
35	On the Multichannel Rendezvous Problem: Fundamental Limits, Optimal Hopping Sequences, and Bounded Time-to-Rendezvous. Mathematics of Operations Research, 2015, 40, 1-23.	0.8	16
36	A necessary and sufficient closure property for two-stage constructions of switching networks. , 2015, , .		1

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37	Bit-Stuffing Algorithms for Crosstalk Avoidance in High-Speed Switching. IEEE Transactions on Computers, 2015, 64, 3404-3416.	2.4	8
38	Temporal bipartite projection and link prediction for online social networks. , 2014, , .		6
39	A proximity measure for link prediction in social user-item networks. , 2014, , .		0
40	Analysis of clustering coefficients of online social networks by duplication models. , 2014, , .		4
41	CACH: Cycle-Adjustable Channel hopping for control channel establishment in cognitive radio networks. , 2014, , .		14
42	Constructions of Memoryless Crosstalk Avoidance Codes Via <inline-formula> <tex-math notation="TeX">${cal C}$ </tex-math></inline-formula>-Transform. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2014, 22, 2030-2033.	2.1	9
43	Load-balanced Birkhoff-von Neumann switches and fat-tree networks. , 2013, , .		3
44	Anchored desynchronization. , 2012, , .		12
45	Quasi-Output-Buffered Switches. IEEE Transactions on Parallel and Distributed Systems, 2011, 22, 833-846.	4.0	3
46	Average Number of Recirculations in SDL Constructions of Optical Priority Queues. IEEE Communications Letters, 2011, 15, 899-901.	2.5	1
47	Constructions of Optical Priority Queues With Multiple Inputs and Multiple Outputs. IEEE Transactions on Information Theory, 2011, 57, 4274-4301.	1.5	4
48	A general probabilistic framework for detecting community structure in networks. , 2011, , .		13
49	Maximizing throughput in wireless networks with finite internal buffers. , 2011, , .		3
50	Prototype design and implementation of a load-balanced Birkhoff-von Neumann switch. , 2010, , .		0
51	Emulation of an Optical Flexible Delay Line by Parallel Variable Optical Delay Lines. IEEE Communications Letters, 2010, 14, 770-772.	2.5	5
52	Twister Networks and Their Applications to Load-Balanced Switches. , 2010, , .		4
53	CR Switch: A Load-Balanced Switch With Contention and Reservation. IEEE/ACM Transactions on Networking, 2009, 17, 1659-1671.	2.6	26
54	Generalized dynamic frame sizing algorithm for finite-internal-buffered networks. IEEE Communications Letters, 2009, 13, 714-716.	2.5	5

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55	Mailbox switch: a scalable two-stage switch architecture for conflict resolution of ordered packets. IEEE Transactions on Communications, 2008, 56, 136-149.	4.9	34
56	Constructions and analysis of crosstalk-free optical queues. , 2008, , .		10
57	Constructions of Multicast Flexible Delay Lines and Optical Multicast Switches with 100% Throughput. , 2007, , .		7
58	Recursive Constructions of Parallel FIFO and LIFO Queues With Switched Delay Lines. IEEE Transactions on Information Theory, 2007, 53, 1778-1798.	1.5	28
59	A simple proof for the constructions of optical priorityÂqueues. Queueing Systems, 2007, 56, 73-77.	0.6	31
60	From switching theory to "queueing" theory. Performance Evaluation Review, 2006, 34, 26-28.	0.4	0
61	Constructions of optical FIFO queues. IEEE Transactions on Information Theory, 2006, 52, 2838-2843.	1.5	53
62	Using switched delay lines for exact emulation of FIFO multiplexers with variable length bursts. IEEE Journal on Selected Areas in Communications, 2006, 24, 108-117.	9.7	26
63	Providing guaranteed rate services in the load balanced Birkhoff-von Neumann switches. IEEE/ACM Transactions on Networking, 2006, 14, 644-656.	2.6	20
64	Design a simple and high performance switch using a two-stage architecture. , 2005, , .		19
65	On the Throughput of Multicasting With Incremental Forward Error Correction. IEEE Transactions on Information Theory, 2005, 51, 900-918.	1.5	7
66	Recursive Construction of FIFO Optical Multiplexers With Switched Delay Lines. IEEE Transactions on Information Theory, 2004, 50, 3221-3233.	1.5	44
67	A min, + system theory for constrained traffic regulation and dynamic service guarantees. IEEE/ACM Transactions on Networking, 2002, 10, 805-817.	2.6	44
68	Load balanced Birkhoffâ€"von Neumann switches, part I: one-stage buffering. Computer Communications, 2002, 25, 611-622.	3.1	258
69	Load balanced Birkhoffâ€"von Neumann switches, part II: multi-stage buffering. Computer Communications, 2002, 25, 623-634.	3.1	202
70	A novel scheme using the information of departure processes for delay guarantees of distributed VBR traffic. IEEE/ACM Transactions on Networking, 2001, 9, 452-463.	2.6	4
71	On the performance of multiplexing independent regulated inputs. Performance Evaluation Review, 2001, 29, 184-193.	0.4	5
72	Birkhoff-von Neumann input-buffered crossbar switches for guaranteed-rate services. IEEE Transactions on Communications, 2001, 49, 1145-1147.	4.9	46

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73	Load balanced Birkhoff-von Neumann switches with resequencing. Performance Evaluation Review, 2001, 29, 23-24.	0.4	18
74	A time varying filtering theory for constrained traffic regulation and dynamic service guarantees. , 1999, , .		16
75	Deterministic traffic specification via projections under the min-plus algebra. , 1999, , .		2
76	Large deviations, moderate deviations, and queues with long-range dependent input. Advances in Applied Probability, 1999, 31, 254-278.	0.4	11
77	On deterministic traffic regulation and service guarantees: a systematic approach by filtering. IEEE Transactions on Information Theory, 1998, 44, 1097-1110.	1.5	125
78	PGPS servers with time-varying capacities. IEEE Communications Letters, 1998, 2, 266-268.	2.5	5
79	Matrix extensions of the filtering theory for deterministic traffic regulation and service guarantees. IEEE Journal on Selected Areas in Communications, 1998, 16, 708-718.	9.7	12
80	Guaranteed quality-of-service wireless access to ATM networks. IEEE Journal on Selected Areas in Communications, 1997, 15, 106-118.	9.7	103
81	Large Deviations for Large Capacity Loss Networks with Fixed Routing and Polyhedral Admission Sets. Discrete Event Dynamic Systems: Theory and Applications, 1997, 7, 391-418.	0.6	4
82	On the exponentiality of stochastic linear systems under the max-plus algebra. IEEE Transactions on Automatic Control, 1996, 41, 1182-1188.	3.6	20
83	Scheduling parallel processors: Structural properties and optimal policies. Mathematical and Computer Modelling, 1996, 23, 93-114.	2.0	8
84	Smoothing Point Processes as a Means to Increase Throughput. Operations Research, 1995, 43, 117-129.	1.2	5
85	The optimality of LEPT in parallel machine scheduling. Journal of Applied Probability, 1994, 31, 788-796.	0.4	3
86	On the input-output map of a G/G/1 queue. Journal of Applied Probability, 1994, 31, 1128-1133.	0.4	11
87	The Stochastic Optimality of SEPT in Parallel Machine Scheduling. Probability in the Engineering and Informational Sciences, 1994, 8, 179-188.	0.6	3
88	Optimal task scheduling on distributed parallel processors. Performance Evaluation, 1994, 20, 207-221.	0.9	4
89	Huffman algebras for independent random variables. Discrete Event Dynamic Systems: Theory and Applications, 1994, 4, 23-40.	0.6	6
90	Effective bandwidth and fast simulation of ATM intree networks. Performance Evaluation, 1994, 20, 45-65.	0.9	114

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91	On the stability of open networks: A unified approach by stochastic dominance. Queueing Systems, 1994, 15, 239-260.	0.6	30
92	Stability, queue length, and delay of deterministic and stochastic queueing networks. IEEE Transactions on Automatic Control, 1994, 39, 913-931.	3.6	691
93	Rearrangement, Majorization and Stochastic Scheduling. Mathematics of Operations Research, 1993, 18, 658-684.	0.8	44
94	A new ordering for stochastic majorization: theory and applications. Advances in Applied Probability, 1992, 24, 604-634.	0.4	37
95	On the optimality of LEPT and cÂµ rules for machines in parallel. Journal of Applied Probability, 1992, 29, 667-681.	0.4	13
96	Monotonicity results for queues with doubly stochastic Poisson arrivals: Ross's conjecture. Advances in Applied Probability, 1991, 23, 210-228.	0.4	37
97	Monotonicity results for queues with doubly stochastic Poisson arrivals: Ross's conjecture. Advances in Applied Probability, 1991, 23, 210-228.	0.4	19
98	Scheduling two classes of exponential jobs on parallel processors: structural results and worst-case analysis. Advances in Applied Probability, 1991, 23, 925-944.	0.4	7
99	Bounds and inequalities for single server loss systems. Queueing Systems, 1990, 6, 425-435.	0.6	6
100	Integration of Discrete-Time Correlated Markov Processes in a TDM System. Probability in the Engineering and Informational Sciences, 1990, 4, 29-56.	0.6	15
101	Mailbox switch: a scalable two-stage switch architecture for conflict resolution of ordered packets. , 0, , .		57
102	Effective bandwidths of departure processes from queues with time varying capacities. , 0, , .		114
103	Computable exponential bounds for intree networks with routing. , 0, , .		9
104	Guaranteed quality-of-service wireless access to ATM networks. , 0, , .		3
105	Fundamental limits of traffic regulation and their connections to source coding. , 0, , .		0
106	Resampling for wireless access. , 0, , .		3
107	Experiments of the theory of effective bandwidth for Markov sources and video traces. , 0, , .		6
108	A filtering theory for deterministic traffic regulation. , 0, , .		12

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109	On service guarantees for input-buffered crossbar switches: a capacity decomposition approach by Birkhoff and von Neumann. , 0, , .		83
110	Birkhoff-von Neumann input buffered crossbar switches. , 0, , .		128
111	Load balanced Birkhoff-von Neumann switches. , 0, , .		45
112	A bandwidth sharing theory for a large number of HTTP-like connections. , 0, , .		5
113	Cost analysis of optical networks with dynamic setup and release of λ-channels. , 0, , .		1
114	Using switched delay lines for exact emulation of FIFO multiplexers with variable length bursts. , 0, , .		3
115	Providing guaranteed rate services in the load balanced Birkhoff-von Neumann switches. , 0, , .		19
116	Quasi-circuit switching and quasi-circuit switches. , 0, , .		4
117	Generalization of the Pollaczek-Khinchin formula for throughput analysis of input-buffered switches. , 0, , .		3