

Chuan Wu

List of Publications by Year in descending order

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173
papers

4,728
citations

218677

26
h-index

289244

40
g-index

174
all docs

174
docs citations

174
times ranked

2986
citing authors

#	ARTICLE	IF	CITATIONS
1	Caching in Dynamic Environments: A Near-Optimal Online Learning Approach. IEEE Transactions on Multimedia, 2023, 25, 792-804.	7.2	4
2	Online Scheduling Algorithm for Heterogeneous Distributed Machine Learning Jobs. IEEE Transactions on Cloud Computing, 2023, 11, 1514-1529.	4.4	5
3	Toward Efficient Online Scheduling for Distributed Machine Learning Systems. IEEE Transactions on Network Science and Engineering, 2022, 9, 1951-1969.	6.4	2
4	Large-Scale Machine Learning Cluster Scheduling via Multi-Agent Graph Reinforcement Learning. IEEE Transactions on Network and Service Management, 2022, 19, 4962-4974.	4.9	4
5	Differentially private recommender system with variational autoencoders. Knowledge-Based Systems, 2022, 250, 109044.	7.1	7
6	Optimizing Task Placement and Online Scheduling for Distributed GNN Training Acceleration. , 2022, , .		4
7	GADGET: Online Resource Optimization for Scheduling Ring-All-Reduce Learning Jobs. , 2022, , .		8
8	Efficient Pipeline Planning for Expedited Distributed DNN Training. , 2022, , .		7
9	Deep Learning-driven Front-Following within Close Proximity: a Hands-Free Control Model on a Smart Walker. , 2022, , .		2
10	Federated Graph Learning with Periodic Neighbour Sampling. , 2022, , .		4
11	Dynamic VM Scaling: Provisioning and Pricing through an Online Auction. IEEE Transactions on Cloud Computing, 2021, 9, 131-144.	4.4	8
12	A Nonintrusive Elderly Home Monitoring System. IEEE Internet of Things Journal, 2021, 8, 2603-2614.	8.7	13
13	DAPPLE. , 2021, , .		61
14	Near-Optimal Topology-adaptive Parameter Synchronization in Distributed DNN Training. , 2021, , .		3
15	A Sum-of-Ratios Multi-Dimensional-Knapsack Decomposition for DNN Resource Scheduling. , 2021, , .		1
16	DL2: A Deep Learning-Driven Scheduler for Deep Learning Clusters. IEEE Transactions on Parallel and Distributed Systems, 2021, 32, 1947-1960.	5.6	35
17	Adversarial Deep Learning for Online Resource Allocation. ACM Transactions on Modeling and Performance Evaluation of Computing Systems, 2021, 6, 1-25.	0.9	3
18	Joint Model and Data Adaptation for Cloud Inference Serving. , 2021, , .		6

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19	Fair Online Power Capping for Emergency Handling in Multi-Tenant Cloud Data Centers. IEEE Transactions on Cloud Computing, 2020, 8, 152-166.	4.4	2
20	Online Placement and Scaling of Geo-Distributed Machine Learning Jobs via Volume-Discounting Brokerage. IEEE Transactions on Parallel and Distributed Systems, 2020, 31, 948-966.	5.6	6
21	Improving Inter-domain Routing through Multi-agent Reinforcement Learning. , 2020, , .		11
22	A Smart Robotic Walker With Intelligent Close-Proximity Interaction Capabilities for Elderly Mobility Safety. Frontiers in Neurorobotics, 2020, 14, 575889.	2.8	20
23	Distributed Machine Learning through Heterogeneous Edge Systems. Proceedings of the AAAI Conference on Artificial Intelligence, 2020, 34, 7179-7186.	4.9	20
24	Preemptive All-reduce Scheduling for Expediting Distributed DNN Training. , 2020, , .		38
25	An Online Algorithm for VNF Service Chain Scaling in Datacenters. IEEE/ACM Transactions on Networking, 2020, 28, 1061-1073.	3.8	22
26	Optimizing distributed training deployment in heterogeneous GPU clusters. , 2020, , .		15
27	Fast Training of Deep Learning Models over Multiple GPUs. , 2020, , .		14
28	Elastic parameter server load distribution in deep learning clusters. , 2020, , .		16
29	Online scheduling of heterogeneous distributed machine learning jobs. , 2020, , .		12
30	Scaling Geo-Distributed Network Function Chains: A Prediction and Learning Framework. IEEE Journal on Selected Areas in Communications, 2019, 37, 1838-1850.	14.0	35
31	A Provably-Efficient Online Algorithm for Re-Utilizing Unused VM Resources for Edge Providers. , 2019, , .		2
32	Control and Motion Scaling of A Compact Cable-driven Dental Robotic Manipulator. , 2019, , .		4
33	Deep Learning-based Job Placement in Distributed Machine Learning Clusters. , 2019, , .		80
34	An Efficient Online Placement Scheme for Cloud Container Clusters. IEEE Journal on Selected Areas in Communications, 2019, 37, 1046-1058.	14.0	21
35	< i>NFVector< /i>: A Resilient NFV System Using the Distributed Actor Model. IEEE Journal on Selected Areas in Communications, 2019, 37, 586-599.	14.0	9
36	< i>NetStar< /i>: A Future/Promise Framework for Asynchronous Network Functions. IEEE Journal on Selected Areas in Communications, 2019, 37, 600-612.	14.0	6

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37	Learning Resource Allocation and Pricing for Cloud Profit Maximization. Proceedings of the AAAI Conference on Artificial Intelligence, 2019, 33, 7570-7577.	4.9	39
38	FlowShader: a Generalized Framework for GPU-accelerated VNF Flow Processing. , 2019, , .		6
39	Characterizing Deep Learning Training Workloads on Alibaba-PAI. , 2019, , .		20
40	A generic communication scheduler for distributed DNN training acceleration. , 2019, , .		156
41	Enhancing the Anonymity in Information Diffusion Based on Obfuscated Coded Data. IEEE Transactions on Network Science and Engineering, 2019, 6, 968-982.	6.4	1
42	A Truthful $(1-\epsilon)$ -Optimal Mechanism for On-demand Cloud Resource Provisioning. IEEE Transactions on Cloud Computing, 2019, , 1-1.	4.4	22
43	A Shapley-Value Mechanism for Bandwidth On Demand between Datacenters. IEEE Transactions on Cloud Computing, 2018, 6, 19-32.	4.4	19
44	An Online Emergency Demand Response Mechanism for Cloud Computing. ACM Transactions on Modeling and Performance Evaluation of Computing Systems, 2018, 3, 1-25.	0.9	3
45	Online Scaling of NFV Service Chains Across Geo-Distributed Datacenters. IEEE/ACM Transactions on Networking, 2018, 26, 699-710.	3.8	95
46	Scheduling Frameworks for Cloud Container Services. IEEE/ACM Transactions on Networking, 2018, 26, 436-450.	3.8	30
47	Occupation-Oblivious Pricing of Cloud Jobs via Online Learning. , 2018, , .		10
48	Online Job Scheduling in Distributed Machine Learning Clusters. , 2018, , .		72
49	A Truthful Online Mechanism for Location-Aware Tasks in Mobile Crowd Sensing. IEEE Transactions on Mobile Computing, 2018, 17, 1737-1749.	5.8	58
50	Online Cloud Resource Allocation and Pricing with Server Speed Scaling. , 2018, , .		1
51	Optimus. , 2018, , .		230
52	Orchestrating Bulk Data Transfers across Geo-Distributed Datacenters. IEEE Transactions on Cloud Computing, 2017, 5, 112-125.	4.4	67
53	Online Stochastic Buy-Sell Mechanism for VNF Chains in the NFV Market. IEEE Journal on Selected Areas in Communications, 2017, 35, 392-406.	14.0	31
54	Cost-Effective Low-Delay Design for Multiparty Cloud Video Conferencing. IEEE Transactions on Multimedia, 2017, 19, 2760-2774.	7.2	19

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55	Virtualized resource sharing in cloud radio access networks: An auction approach. Computer Communications, 2017, 114, 22-35.	5.1	5
56	Dynamic Scaling of Virtualized, Distributed Service Chains: A Case Study of IMS. IEEE Journal on Selected Areas in Communications, 2017, 35, 2501-2511.	14.0	27
57	Virtualized Network Coding Functions on the Internet. , 2017, , .		5
58	A Scalable and Distributed Approach for NFV Service Chain Cost Minimization. , 2017, , .		19
59	GPUNFV. , 2017, , .		25
60	Optimal Posted Prices for Online Cloud Resource Allocation. Proceedings of the ACM on Measurement and Analysis of Computing Systems, 2017, 1, 1-26.	1.8	11
61	An Online Auction Mechanism for Dynamic Virtual Cluster Provisioning in Geo-Distributed Clouds. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 677-688.	5.6	21
62	An Efficient Cloud Market Mechanism for Computing Jobs With Soft Deadlines. IEEE/ACM Transactions on Networking, 2017, 25, 793-805.	3.8	62
63	Online Auctions in IaaS Clouds: Welfare and Profit Maximization With Server Costs. IEEE/ACM Transactions on Networking, 2017, 25, 1034-1047.	3.8	53
64	Proactive VNF provisioning with multi-timescale cloud resources: Fusing online learning and online optimization. , 2017, , .		75
65	Online Learning-Assisted VNF Service Chain Scaling with Network Uncertainties. , 2017, , .		23
66	Double Auction for Resource Allocation in Cloud Computing. , 2017, , .		2
67	An online incentive mechanism for emergency demand response in geo-distributed colocation data centers. , 2016, , .		26
68	Colocation Demand Response: Joint Online Mechanisms for Individual Utility and Social Welfare Maximization. IEEE Journal on Selected Areas in Communications, 2016, 34, 3978-3992.	14.0	21
69	More is Better? Measurement of MPTCP Based Cellular Bandwidth Aggregation in the Wild. , 2016, , .		3
70	Online VNF Scaling in Datacenters. , 2016, , .		48
71	An online mechanism for dynamic virtual cluster provisioning in geo-distributed clouds. , 2016, , .		10
72	An Emergency Demand Response Mechanism for Cloud Computing. Performance Evaluation Review, 2016, 44, 58-63.	0.6	2

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73	An efficient auction mechanism for service chains in the NFV market. , 2016, , .		54
74	Online influence maximization in non-stationary Social Networks. , 2016, , .		12
75	Capacity of P2P On-Demand Streaming With Simple, Robust, and Decentralized Control. IEEE/ACM Transactions on Networking, 2016, 24, 2607-2620.	3.8	12
76	An Online Auction Framework for Dynamic Resource Provisioning in Cloud Computing. IEEE/ACM Transactions on Networking, 2016, 24, 2060-2073.	3.8	58
77	The Streaming Capacity of Sparsely Connected P2P Systems With Distributed Control. IEEE/ACM Transactions on Networking, 2016, 24, 58-71.	3.8	4
78	Virtual Machine Trading in a Federation of Clouds: Individual Profit and Social Welfare Maximization. IEEE/ACM Transactions on Networking, 2016, 24, 1827-1840.	3.8	25
79	A Truthful Incentive Mechanism for Emergency Demand Response in Geo-Distributed Colocation Data Centers. ACM Transactions on Modeling and Performance Evaluation of Computing Systems, 2016, 1, 1-23.	0.9	6
80	Software Defined Mobile Multicast. , 2015, , .		1
81	Fair rewarding in colocation data centers: Truthful mechanism for emergency demand response. , 2015, , .		15
82	A truthful incentive mechanism for emergency demand response in colocation data centers. , 2015, , .		76
83	Online cost minimization for operating geo-distributed cloud CDNs. , 2015, , .		9
84	Socially-optimal online spectrum auctions for secondary wireless communication. , 2015, , .		15
85	Cost-Effective Low-Delay Cloud Video Conferencing. , 2015, , .		9
86	Responsive multipath TCP in SDN-based datacenters. , 2015, , .		28
87	Cost-Minimizing Dynamic Migration of Content Distribution Services into Hybrid Clouds. IEEE Transactions on Parallel and Distributed Systems, 2015, 26, 3330-3345.	5.6	39
88	Online Auctions in IaaS Clouds. , 2015, , .		36
89	A Joint Online Transcoding and Delivery Approach for Dynamic Adaptive Streaming. IEEE Transactions on Multimedia, 2015, 17, 867-879.	7.2	30
90	Online Auctions in IaaS Clouds. Performance Evaluation Review, 2015, 43, 3-15.	0.6	22

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91	Cost-Minimizing Online VM Purchasing for Application Service Providers with Arbitrary Demands. , 2015, , .		10
92	An online procurement auction for power demand response in storage-assisted smart grids. , 2015, , .		36
93	Hierarchical Virtual Machine Placement in Modular Data Centers. , 2015, , .		8
94	A truthful (1- ϵ)-optimal mechanism for on-demand cloud resource provisioning. , 2015, , .		14
95	Demand Response in Smart Grids: A Randomized Auction Approach. IEEE Journal on Selected Areas in Communications, 2015, 33, 2540-2553.	14.0	33
96	Online Electricity Cost Saving Algorithms for Co-Location Data Centers. IEEE Journal on Selected Areas in Communications, 2015, 33, 2906-2919.	14.0	9
97	Enhancing Internet-Scale Video Service Deployment Using Microblog-Based Prediction. IEEE Transactions on Parallel and Distributed Systems, 2015, 26, 775-785.	5.6	15
98	Scaling Social Media Applications Into Geo-Distributed Clouds. IEEE/ACM Transactions on Networking, 2015, 23, 689-702.	3.8	86
99	Locality-aware streaming in hybrid P2P-cloud CDN systems. Peer-to-Peer Networking and Applications, 2015, 8, 320-335.	3.9	15
100	Core-Selecting Auctions for Dynamically Allocating Heterogeneous VMs in Cloud Computing. , 2014, , .		23
101	Federated Private Clouds via Broker's Marketplace: A Stackelberg-Game Perspective. , 2014, , .		9
102	Randomized auction design for electricity markets between grids and microgrids. , 2014, , .		20
103	RSMOA: A revenue and social welfare maximizing online auction for dynamic cloud resource provisioning. , 2014, , .		24
104	An online auction framework for dynamic resource provisioning in cloud computing. , 2014, , .		72
105	Randomized auction design for electricity markets between grids and microgrids. Performance Evaluation Review, 2014, 42, 99-110.	0.6	11
106	Latency-minimizing data aggregation in wireless sensor networks under physical interference model. Ad Hoc Networks, 2014, 12, 52-68.	5.5	38
107	A Geometric Perspective to Multiple-Unicast Network Coding. IEEE Transactions on Information Theory, 2014, 60, 2884-2895.	2.4	14
108	Joint online transcoding and geo-distributed delivery for dynamic adaptive streaming. , 2014, , .		39

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109	Characterizing cascade dynamics in a microblogging system. , 2014, , .		0
110	Dynamic resource provisioning in cloud computing: A randomized auction approach. , 2014, , .		142
111	Dynamic pricing and profit maximization for the cloud with geo-distributed data centers. , 2014, , .		67
112	Online algorithms for uploading deferrable big data to the cloud. , 2014, , .		17
113	Socially-Optimal ISP-Aware P2P Content Distribution via a Primal-Dual Approach. , 2014, , .		0
114	An online auction framework for dynamic resource provisioning in cloud computing. Performance Evaluation Review, 2014, 42, 71-83.	0.6	56
115	Cost-minimizing preemptive scheduling of mapreduce workloads on hybrid clouds. , 2013, , .		3
116	Peer-Assisted Social Media Streaming with Social Reciprocity. IEEE Transactions on Network and Service Management, 2013, 10, 84-94.	4.9	13
117	Moving big data to the cloud. , 2013, , .		10
118	Profit-maximizing virtual machine trading in a federation of selfish clouds. , 2013, , .		53
119	SmartDPSS: Cost-Minimizing Multi-source Power Supply for Datacenters with Arbitrary Demand. , 2013, , .		39
120	Information multicast in (pseudo-)planar networks: Efficient network coding over small finite fields. , 2013, , .		5
121	Aggregation Latency-Energy Tradeoff in Wireless Sensor Networks with Successive Interference Cancellation. IEEE Transactions on Parallel and Distributed Systems, 2013, 24, 2160-2170.	5.6	29
122	CloudMoV: Cloud-Based Mobile Social TV. IEEE Transactions on Multimedia, 2013, 15, 821-832.	7.2	43
123	Moving Big Data to The Cloud: An Online Cost-Minimizing Approach. IEEE Journal on Selected Areas in Communications, 2013, 31, 2710-2721.	14.0	110
124	vSkyConf. , 2013, , .		29
125	MultiGreen. , 2013, , .		50
126	On uniform matroidal networks. , 2013, , .		1

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127	Capacity of P2P on-demand streaming with simple, robust and decentralized control. , 2013, , .		6
128	Signal Alignment: Enabling Physical Layer Network Coding for MIMO Networking. IEEE Transactions on Wireless Communications, 2013, 12, 3012-3023.	9.2	18
129	Socially-optimal multi-hop secondary communication under arbitrary primary user mechanisms. , 2013, , .		4
130	Auction-based P2P VoD streaming. ACM Transactions on Multimedia Computing, Communications and Applications, 2012, 8, 1-22.	4.3	17
131	Diagnosing network-wide P2P live streaming inefficiencies. ACM Transactions on Multimedia Computing, Communications and Applications, 2012, 8, 1-19.	4.3	26
132	Cost-minimizing dynamic migration of content distribution services into hybrid clouds. , 2012, , .		29
133	Scaling social media applications into geo-distributed clouds. , 2012, , .		55
134	Buddy Routing: A Routing Paradigm for NanoNets Based on Physical Layer Network Coding. , 2012, , .		1
135	Epidemic forwarding in mobile social networks. , 2012, , .		17
136	Space information flow: Multiple unicast. , 2012, , .		23
137	Guiding internet-scale video service deployment using microblog-based prediction. , 2012, , .		14
138	Strategies of collaboration in multi-swarm peer-to-peer content distribution. Tsinghua Science and Technology, 2012, 17, 29-39.	6.1	5
139	Exploring the Sustainability of Credit-incentivized Peer-to-Peer Content Distribution. , 2012, , .		2
140	A Resource Auction Based Allocation Mechanism in the Cloud Computing Environment. , 2012, , .		21
141	Stochastic optimal multirate multicast in socially selfish wireless networks. , 2012, , .		12
142	A geometric framework for investigating the multiple unicast network coding conjecture. , 2012, , .		11
143	Dynamic scaling of VoD services into hybrid clouds with cost minimization and QoS guarantee. , 2012, , .		8
144	Utility-Maximizing Data Dissemination in Socially Selfish Cognitive Radio Networks. , 2011, , .		13

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145	On Dynamic Server Provisioning in Multichannel P2P Live Streaming. IEEE/ACM Transactions on Networking, 2011, 19, 1317-1330.	3.8	27
146	Peer-assisted online games with social reciprocity. , 2011, , .		2
147	Physical Layer Network Coding with Signal Alignment for MIMO Wireless Networks. , 2011, , .		1
148	CloudMedia: When Cloud on Demand Meets Video on Demand. , 2011, , .		115
149	Anonymous communication with network coding against traffic analysis attack. , 2011, , .		19
150	The streaming capacity of sparsely-connected P2P systems with distributed control. , 2011, , .		17
151	Strategyproof auctions for balancing social welfare and fairness in secondary spectrum markets. , 2011, , .		80
152	Strategies of Collaboration in Multi-Channel P2P VoD Streaming. , 2010, , .		11
153	InstantLeap: an architecture for fast neighbor discovery in large-scale P2P VoD streaming. Multimedia Systems, 2010, 16, 183-198.	4.7	3
154	UUSee: Large-Scale Operational On-Demand Streaming with Random Network Coding. , 2010, , .		124
155	A spatial publish subscribe overlay for massively multiuser virtual environments. , 2010, , .		12
156	Minimum-latency aggregation scheduling in wireless sensor networks under physical interference model. , 2010, , .		44
157	Diagnosing Network-Wide P2P Live Streaming Inefficiencies. , 2009, , .		40
158	Distilling Superior Peers in Large-Scale P2P Streaming Systems. , 2009, , .		37
159	InstantLeap. , 2009, , .		27
160	Exploring large-scale peer-to-peer live streaming topologies. ACM Transactions on Multimedia Computing, Communications and Applications, 2008, 4, 1-23.	4.3	61
161	rStream: Resilient and Optimal Peer-to-Peer Streaming with Rateless Codes. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 77-92.	5.6	56
162	Dynamic Bandwidth Auctions in Multioverlay P2P Streaming with Network Coding. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 806-820.	5.6	56

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163	<title>On meeting P2P streaming bandwidth demand with limited supplies</title> . , 2008, , .		17
164	Strategies of Conflict in Coexisting Streaming Overlays. , 2007, , .		36
165	Magellan: Charting Large-Scale Peer-to-Peer Live Streaming Topologies. , 2007, , .		49
166	Diverse: application-layer service differentiation in peer-to-peer communications. IEEE Journal on Selected Areas in Communications, 2007, 25, 222-234.	14.0	20
167	Characterizing Peer-to-Peer Streaming Flows. IEEE Journal on Selected Areas in Communications, 2007, 25, 1612-1626.	14.0	46
168	Optimal Rate Allocation in Overlay Content Distribution. Lecture Notes in Computer Science, 2007, , 678-690.	1.3	18
169	Outburst: Efficient Overlay Content Distribution with Rateless Codes. Lecture Notes in Computer Science, 2007, , 1208-1216.	1.3	4
170	Echelon: Peer-to-Peer Network Diagnosis with Network Coding. IEEE International Workshop on Quality of Service, 2006, , .	0.0	8
171	Optimal peer selection for minimum-delay peer-to-peer streaming with rateless codes. , 2005, , .		39
172	rStream. , 2005, , .		30
173	Events recognition by semantic inference for sports video. , 0, , .		11