

Stefan Schmid

List of Publications by Year in descending order

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Version: 2024-02-01

169
papers

2,715
citations

279798
23
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377865
34
g-index

178
all docs

178
docs citations

178
times ranked

1471
citing authors

#	ARTICLE	IF	CITATIONS
1	Distributed Self-Adjusting Tree Networks. IEEE Transactions on Cloud Computing, 2023, 11, 716-729.	4.4	1
2	Improved Fast Rerouting Using Postprocessing. IEEE Transactions on Dependable and Secure Computing, 2022, 19, 537-550.	5.4	3
3	Survey on Blockchain Networking. ACM Computing Surveys, 2022, 54, 1-34.	23.0	41
4	The Programmable Data Plane. ACM Computing Surveys, 2022, 54, 1-36.	23.0	44
5	On the Benefits of Joint Optimization of Reconfigurable CDN-ISP Infrastructure. IEEE Transactions on Network and Service Management, 2022, 19, 158-173.	4.9	8
6	Automata-Theoretic Approach to Verification of MPLS Networks Under Link Failures. IEEE/ACM Transactions on Networking, 2022, 30, 766-781.	3.8	1
7	CacheNet: Leveraging the principle of locality in reconfigurable network design. Computer Networks, 2022, 204, 108648.	5.1	0
8	Demand-Aware Network Design With Minimal Congestion and Route Lengths. IEEE/ACM Transactions on Networking, 2022, 30, 1838-1848.	3.8	3
9	An Axiomatic Perspective on the Performance Effects of End-Host Path Selection. Performance Evaluation Review, 2022, 49, 16-17.	0.6	0
10	Improved Scalability of Demand-Aware Datacenter Topologies With Minimal Route Lengths and Congestion. Performance Evaluation Review, 2022, 49, 35-36.	0.6	0
11	Empirical evaluation of nodes and channels of the lightning network. Pervasive and Mobile Computing, 2022, 83, 101584.	3.3	11
12	Software-Defined Reconfigurable Intelligent Surfaces: From Theory to End-to-End Implementation. Proceedings of the IEEE, 2022, 110, 1466-1493.	21.3	15
13	Optimizing multicast flows in high-bandwidth reconfigurable datacenter networks. Journal of Network and Computer Applications, 2022, 203, 103399.	9.1	3
14	Local Fast Rerouting With Low Congestion: A Randomized Approach. IEEE/ACM Transactions on Networking, 2022, 30, 2403-2418.	3.8	2
15	Push-Down Trees: Optimal Self-Adjusting Complete Trees. IEEE/ACM Transactions on Networking, 2022, 30, 2419-2432.	3.8	2
16	Fast and Heavy Disjoint Weighted Matchings for Demand-Aware Datacenter Topologies. , 2022, , .		4
17	Lazy Self-Adjusting Bounded-Degree Networks for the Matching Model. , 2022, , .		3
18	Approximate Dynamic Balanced Graph Partitioning. , 2022, , .		1

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19	A Survey of Fast-Recovery Mechanisms in Packet-Switched Networks. IEEE Communications Surveys and Tutorials, 2021, 23, 1253-1301.	39.4	41
20	Preacher: Network Policy Checker for Adversarial Environments. IEEE/ACM Transactions on Networking, 2021, 29, 2087-2100.	3.8	1
21	On the Implications of Routing Models on Network Optimization. IEEE Transactions on Network and Service Management, 2021, , 1-1.	4.9	0
22	Online Dynamic B-Matching. Performance Evaluation Review, 2021, 48, 99-108.	0.6	3
23	Load-Optimization in Reconfigurable Networks. Performance Evaluation Review, 2021, 48, 39-44.	0.6	5
24	Latte. Performance Evaluation Review, 2021, 48, 14-26.	0.6	8
25	Fast ReRoute on Programmable Switches. IEEE/ACM Transactions on Networking, 2021, 29, 637-650.	3.8	10
26	Fix with P6: Verifying Programmable Switches at Runtime. , 2021, , .		3
27	Optimal Online Balanced Graph Partitioning. , 2021, , .		4
28	Demand Matrix Optimization for Offchain Payments in Blockchain. , 2021, , .		4
29	Grafting Arborescences for Extra Resilience of Fast Rerouting Schemes. , 2021, , .		4
30	CBNet: Minimizing Adjustments in Concurrent Demand-Aware Tree Networks. , 2021, , .		3
31	LightPIR: Privacy-Preserving Route Discovery for Payment Channel Networks. , 2021, , .		3
32	Enabling Novel Interconnection Agreements with Path-Aware Networking Architectures. , 2021, , .		1
33	Demand-Aware Plane Spanners of Bounded Degree. , 2021, , .		3
34	On the Complexity of Weight-Dynamic Network Algorithms. , 2021, , .		3
35	It's Good to Relax: Fast Profit Approximation for Virtual Networks with Latency Constraints. , 2021, , .		1
36	Optimal Virtual Network Embeddings for Tree Topologies. , 2021, , .		1

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37	A Survey of Reconfigurable Optical Networks. Optical Switching and Networking, 2021, 41, 100621.	2.0	26
38	An axiomatic perspective on the performance effects of end-host path selection. Performance Evaluation, 2021, 151, 102233.	1.2	2
39	Improved scalability of demand-aware datacenter topologies with minimal route lengths and congestion. Performance Evaluation, 2021, , 102238.	1.2	4
40	Survey on Algorithms for Self-stabilizing Overlay Networks. ACM Computing Surveys, 2021, 53, 1-24.	23.0	10
41	Cerberus. Proceedings of the ACM on Measurement and Analysis of Computing Systems, 2021, 5, 1-33.	1.8	19
42	On Efficient Oblivious Wavelength Assignments for Programmable Wide-Area Topologies. , 2021, , .		1
43	Demand-aware network designs of bounded degree. Distributed Computing, 2020, 33, 311-325.	0.8	8
44	Toward Consistent SDNs: A Case for Network State Fuzzing. IEEE Transactions on Network and Service Management, 2020, 17, 668-681.	4.9	15
45	Incentivizing stable path selection in future Internet architectures. Performance Evaluation, 2020, 144, 102137.	1.2	4
46	Efficient non-segregated routing for reconfigurable demand-aware networks. Computer Communications, 2020, 164, 138-147.	5.1	8
47	Inter-Datacenter Bulk Transfers: Trends and Challenges. IEEE Network, 2020, 34, 240-246.	6.9	10
48	Dynamic Balanced Graph Partitioning. SIAM Journal on Discrete Mathematics, 2020, 34, 1791-1812.	0.8	6
49	Working Set Theorems for Routing in Self-Adjusting Skip List Networks. , 2020, , .		3
50	AirNet: Energy-Aware Deployment and Scheduling of Aerial Networks. IEEE Transactions on Vehicular Technology, 2020, 69, 12252-12263.	6.3	11
51	Deadline-Aware Multicast Transfers in Software-Defined Optical Wide-Area Networks. IEEE Journal on Selected Areas in Communications, 2020, 38, 1584-1599.	14.0	21
52	On the Hardness and Inapproximability of Virtual Network Embeddings. IEEE/ACM Transactions on Networking, 2020, 28, 791-803.	3.8	26
53	P4Consist: Toward Consistent P4 SDNs. IEEE Journal on Selected Areas in Communications, 2020, 38, 1293-1307.	14.0	19
54	Guest Editorial Leveraging Machine Learning in SDN/NFV-Based Networks. IEEE Journal on Selected Areas in Communications, 2020, 38, 245-247.	14.0	3

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55	RoSCo: Robust Updates for Software-Defined Networks. IEEE Journal on Selected Areas in Communications, 2020, 38, 1352-1365.	14.0	5
56	Breeding unicorns: Developing trustworthy and scalable randomness beacons. PLoS ONE, 2020, 15, e0232261.	2.5	1
57	Walking Through Waypoints. Algorithmica, 2020, 82, 1784-1812.	1.3	3
58	On Search Friction of Route Discovery in Offchain Networks. , 2020, , .		3
59	On the Complexity of Traffic Traces and Implications. Proceedings of the ACM on Measurement and Analysis of Computing Systems, 2020, 4, 1-29.	1.8	17
60	AalWiNes. , 2020, , .		11
61	Toward Active and Passive Confidentiality Attacks on Cryptocurrency Off-chain Networks. , 2020, , .		21
62	Dynamically Optimal Self-adjusting Single-Source Tree Networks. Lecture Notes in Computer Science, 2020, , 143-154.	1.3	3
63	Chameleon. , 2020, , .		6
64	SOK. , 2020, , .		11
65	Competitive clustering of stochastic communication patterns on a ring. Computing (Vienna/New) Tj ETQq1 1 0.784314 rgBT ₅ /Overlook	4.8	4.8
66	Distributed Dominating Set Approximations beyond Planar Graphs. ACM Transactions on Algorithms, 2019, 15, 1-18.	1.0	11
67	Local Fast Rerouting with Low Congestion: A Randomized Approach. , 2019, , .		2
68	Runtime Verification of P4 Switches with Reinforcement Learning. , 2019, , .		21
69	Ismael: Using Machine Learning to Predict Acceptance of Virtual Clusters in Data Centers. IEEE Transactions on Network and Service Management, 2019, 16, 950-964.	4.9	4
70	On the Complexity of Non-Segregated Routing in Reconfigurable Data Center Architectures. Computer Communication Review, 2019, 49, 2-8.	1.8	20
71	Bonsai: Efficient Fast Failover Routing Using Small Arborescences. , 2019, , .		11
72	DeepMPLS: Fast Analysis of MPLS Configurations Using Deep Learning. , 2019, , .		0

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73	A Constant Approximation for Maximum Throughput Multicommodity Routing And Its Application to Delay-Tolerant Network Scheduling. , 2019, , .		4
74	Distributed Self-Adjusting Tree Networks. , 2019, , .		19
75	On the Power of Preprocessing in Decentralized Network Optimization. , 2019, , .		6
76	Demand-Aware Network Design with Minimal Congestion and Route Lengths. , 2019, , .		28
77	CASA: Congestion and Stretch Aware Static Fast Rerouting. , 2019, , .		22
78	Congestion-Free Rerouting of Multiple Flows in Timed SDNs. IEEE Journal on Selected Areas in Communications, 2019, 37, 968-981.	14.0	21
79	Parametrized complexity of virtual network embeddings. Computer Communication Review, 2019, 49, 3-10.	1.8	15
80	Adaptable and Data-Driven Softwarized Networks: Review, Opportunities, and Challenges. Proceedings of the IEEE, 2019, 107, 711-731.	21.3	80
81	Toward demand-aware networking. Computer Communication Review, 2019, 48, 31-40.	1.8	38
82	DeepMPLS: fast analysis of MPLS configurations using deep learning. , 2019, , .		1
83	Distributed Consistent Network Updates in SDNs: Local Verification for Global Guarantees. , 2019, , .		2
84	Efficient Non-Segregated Routing for Reconfigurable Demand-Aware Networks. , 2019, , .		9
85	Nap: Network-Aware Data Partitions for Efficient Distributed Processing. , 2019, , .		1
86	Breeding Unicorns: Developing Trustworthy and Scalable Randomness Beacons. , 2019, , .		1
87	Improved Fast Rerouting Using Postprocessing. , 2019, , .		9
88	Empirical Predictability Study of SDN Switches. , 2019, , .		12
89	On the Impact of the Network Hypervisor on Virtual Network Performance. , 2019, , .		0
90	On Polynomial-Time Congestion-Free Software-Defined Network Updates. , 2019, , .		1

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91	Virtual Network Embedding Approximations: Leveraging Randomized Rounding. IEEE/ACM Transactions on Networking, 2019, 27, 2071-2084.	3.8	25
92	PURR: a primitive for reconfigurable fast reroute. , 2019, , .		22
93	Guest Editorial: Special Issue on Latest Developments for the Management of Softwarized Networks. IEEE Transactions on Network and Service Management, 2019, 16, 1297-1302.	4.9	1
94	Survey of Consistent Software-Defined Network Updates. IEEE Communications Surveys and Tutorials, 2019, 21, 1435-1461.	39.4	79
95	Survey of Reconfigurable Data Center Networks. ACM SIGACT News, 2019, 50, 62-79.	0.1	36
96	Efficient non-segregated routing for reconfigurable demand-aware networks. , 2019, , .		4
97	Self-adjusting Linear Networks. Lecture Notes in Computer Science, 2019, , 368-382.	1.3	3
98	Online Aggregation of the Forwarding Information Base: Accounting for Locality and Churn. IEEE/ACM Transactions on Networking, 2018, 26, 591-604.	3.8	7
99	Kraken: Online and Elastic Resource Reservations for Cloud Datacenters. IEEE/ACM Transactions on Networking, 2018, 26, 422-435.	3.8	13
100	rDAN : Toward robust demand-aware network designs. Information Processing Letters, 2018, 133, 5-9.	0.6	21
101	The show must go on: Fundamental data plane connectivity services for dependable SDNs. Computer Communications, 2018, 116, 172-183.	5.1	6
102	Efficient Loop-Free Rerouting of Multiple SDN Flows. IEEE/ACM Transactions on Networking, 2018, 26, 948-961.	3.8	30
103	Loop-Free Route Updates for Software-Defined Networks. IEEE/ACM Transactions on Networking, 2018, 26, 328-341.	3.8	35
104	Sade: competitive MAC under adversarial SINR. Distributed Computing, 2018, 31, 241-254.	0.8	11
105	perfbench. , 2018, , .		2
106	Waypoint Routing in Special Networks. , 2018, , .		2
107	Ahab: Data-Driven Virtual Cluster Hunting. , 2018, , .		9
108	Guest Editorsâ€™ Introduction: Special Section on Novel Techniques for Managing Softwarized Networks. IEEE Transactions on Network and Service Management, 2018, 15, 1192-1196.	4.9	2

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109	Supporting Emerging Applications With Low-Latency Failover in P4. , 2018, , .		15
110	Characterizing the algorithmic complexity of reconfigurable data center architectures. , 2018, , .		39
111	P-Rex. , 2018, , .		22
112	Transiently Policy-Compliant Network Updates. IEEE/ACM Transactions on Networking, 2018, 26, 2569-2582.	3.8	9
113	Polynomial-Time What-If Analysis for Prefix-Manipulating MPLS Networks. , 2018, , .		11
114	Guest Editorial Scalability Issues and Solutions for Software Defined Networks. IEEE Journal on Selected Areas in Communications, 2018, 36, 2595-2602.	14.0	23
115	Tomographic Node Placement Strategies and the Impact of the Routing Model. , 2018, , .		3
116	Load-Optimal Local Fast Rerouting for Dense Networks. IEEE/ACM Transactions on Networking, 2018, 26, 2583-2597.	3.8	8
117	Charting the Complexity Landscape of Virtual Network Embeddings. , 2018, , .		24
118	Virtual Network Embedding Approximations: Leveraging Randomized Rounding. , 2018, , .		12
119	Approximate and incremental network function placement. Journal of Parallel and Distributed Computing, 2018, 120, 159-169.	4.1	23
120	TI-MFA: Keep calm and reroute segments fast. , 2018, , .		17
121	Renaissance: A Self-Stabilizing Distributed SDN Control Plane. , 2018, , .		11
122	Charting the Algorithmic Complexity of Waypoint Routing. Computer Communication Review, 2018, 48, 42-48.	1.8	12
123	Local Fast Failover Routing With Low Stretch. Computer Communication Review, 2018, 48, 35-41.	1.8	21
124	Scheduling Congestion-Free Updates of Multiple Flows with Chronicle in Timed SDNs. , 2018, , .		14
125	A Walk in the Clouds: Routing Through VNFs on Bidirected Networks. Lecture Notes in Computer Science, 2018, , 11-26.	1.3	4
126	Walking Through Waypoints. Lecture Notes in Computer Science, 2018, , 37-51.	1.3	5

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127	The Grand CRU Challenge. , 2017, , .		0
128	Data locality and replica aware virtual cluster embeddings. Theoretical Computer Science, 2017, 697, 37-57.	0.9	2
129	Outsmarting Network Security with SDN Teleportation. , 2017, , .		20
130	Load-Optimal Local Fast Rerouting for Resilient Networks. , 2017, , .		5
131	Chronus: Consistent Data Plane Updates in Timed SDNs. , 2017, , .		24
132	Scheduling Congestion- and Loop-Free Network Update in Timed SDNs. IEEE Journal on Selected Areas in Communications, 2017, 35, 2542-2552.	14.0	24
133	Competitive Clustering of Stochastic Communication Patterns on a Ring. Lecture Notes in Computer Science, 2017, , 231-247.	1.3	4
134	Kraken: Online and elastic resource reservations for multi-tenant datacenters. , 2016, , .		27
135	Stitching Inter-Domain Paths over IXPs. , 2016, , .		28
136	It's a Match!. Computer Communication Review, 2016, 46, 30-36.	1.8	49
137	SplayNet: Towards Locally Self-Adjusting Networks. IEEE/ACM Transactions on Networking, 2016, 24, 1421-1433.	3.8	41
138	An Approximation Algorithm for Path Computation and Function Placement in SDNs. Lecture Notes in Computer Science, 2016, , 374-390.	1.3	35
139	Online Balanced Repartitioning. Lecture Notes in Computer Science, 2016, , 243-256.	1.3	20
140	Transiently Secure Network Updates. , 2016, , .		36
141	SHEAR: A Highly Available and Flexible Network Architecture Marrying Distributed and Logically Centralized Control Planes. , 2015, , .		22
142	How Hard Can It Be?: Understanding the Complexity of Replica Aware Virtual Cluster Embeddings. , 2015, , .		4
143	A distributed and robust SDN control plane for transactional network updates. , 2015, , .		79
144	Scheduling Loop-free Network Updates. , 2015, , .		57

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145	Beyond the Stars. Computer Communication Review, 2015, 45, 12-18.	1.8	31
146	Online Admission Control and Embedding of Service Chains. Lecture Notes in Computer Science, 2015, , 104-118.	1.3	64
147	Provable data plane connectivity with local fast failover. , 2014, , .		65
148	Towards Unified Programmability of Cloud and Carrier Infrastructure. , 2014, , .		25
149	SKIP ⁺ . Journal of the ACM, 2014, 61, 1-26.	2.2	26
150	Good Network Updates for Bad Packets. , 2014, , .		58
151	Competitive MAC under adversarial SINR. , 2014, , .		19
152	It's About Time: On Optimal Virtual Network Embeddings under Temporal Flexibilities. , 2014, , .		14
153	A Note on the Parallel Runtime of Self-Stabilizing Graph Linearization. Theory of Computing Systems, 2014, 55, 110-135.	1.1	9
154	The Wide-Area Virtual Service Migration Problem: A Competitive Analysis Approach. IEEE/ACM Transactions on Networking, 2014, 22, 165-178.	3.8	25
155	Competitive and deterministic embeddings of virtual networks. Theoretical Computer Science, 2013, 496, 184-194.	0.9	19
156	OBST: A self-adjusting peer-to-peer overlay based on multiple BSTs. , 2013, , .		3
157	Locally Self-Adjusting Tree Networks. , 2013, , .		12
158	Incremental SDN deployment in enterprise networks. , 2013, , .		39
159	Exploiting locality in distributed SDN control. , 2013, , .		138
160	How (Not) to Shoot in Your Foot with SDN Local Fast Failover. Lecture Notes in Computer Science, 2013, , 68-82.	1.3	23
161	Competitive and Deterministic Embeddings of Virtual Networks. Lecture Notes in Computer Science, 2012, , 106-121.	1.3	21
162	Competitive and fair throughput for co-existing networks under adversarial interference. , 2012, , .		25

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163	Towards higher-dimensional topological self-stabilization: A distributed algorithm for Delaunay graphs. Theoretical Computer Science, 2012, 457, 137-148.	0.9	14
164	Competitive and Fair Medium Access Despite Reactive Jamming. , 2011, , .		38
165	Self-stabilizing leader election for single-hop wireless networks despite jamming. , 2011, , .		16
166	A Jamming-Resistant MAC Protocol for Multi-Hop Wireless Networks. Lecture Notes in Computer Science, 2010, , 179-193.	1.3	33
167	Speed Dating Despite Jammers. Lecture Notes in Computer Science, 2009, , 1-14.	1.3	22
168	A Self-repairing Peer-to-Peer System Resilient to Dynamic Adversarial Churn. Lecture Notes in Computer Science, 2005, , 13-23.	1.3	45
169	Area Convergence of Monoculus Robots With Additional Capabilities. Computer Journal, 0, , .	2.4	0