Stefan Schmid

List of Publications by Citations

156 papers	1,731 citations	22 h-index	33 g-index
178 ext. papers	2,223 ext. citations	4.2 avg, IF	5.69 L-index

#	Paper	IF	Citations
156	Exploiting locality in distributed SDN control **2013**,		112
155	A distributed and robust SDN control plane for transactional network updates **2015**,		61
154	Online Admission Control and Embedding of Service Chains. *Lecture Notes in Computer Science*, **2015**, 104-118	0.9	54
153	Provable data plane connectivity with local fast failover **2014**,		53
152	Adaptable and Data-Driven Softwarized Networks: Review, Opportunities, and Challenges. *Proceedings of the IEEE*, **2019**, 107, 711-731	14.3	51
151	Survey of Consistent Software-Defined Network Updates. *IEEE Communications Surveys and Tutorials*, **2019**, 21, 1435-1461	37.1	47
150	Scheduling Loop-free Network Updates **2015**,		46
149	Good Network Updates for Bad Packets **2014**,		44
148	It's a Match!. *Computer Communication Review*, **2016**, 46, 30-36	1.4	42
147	A Self-repairing Peer-to-Peer System Resilient to Dynamic Adversarial Churn. *Lecture Notes in Computer Science*, **2005**, 13-23	0.9	37
146	An Approximation Algorithm for Path Computation and Function Placement in SDNs. *Lecture Notes in Computer Science*, **2016**, 374-390	0.9	33
145	Competitive and Fair Medium Access Despite Reactive Jamming **2011**,		31
144	SplayNet: Towards Locally Self-Adjusting Networks. *IEEE/ACM Transactions on Networking*, **2016**, 24, 1421-1433	3.8	27
143	Incremental SDN deployment in enterprise networks **2013**,		26
142	Transiently Secure Network Updates **2016**,		26
141	Toward demand-aware networking. *Computer Communication Review*, **2019**, 48, 31-40	1.4	26
140	Loop-Free Route Updates for Software-Defined Networks. *IEEE/ACM Transactions on Networking*, **2018**, 26, 328-341	3.8	24

139	Characterizing the algorithmic complexity of reconfigurable data center architectures **2018**,		23
138	Beyond the Stars. *Computer Communication Review*, **2015**, 45, 12-18	1.4	22
137	Stitching Inter-Domain Paths over IXPs **2016**,		22
136	. *IEEE/ACM Transactions on Networking*, **2014**, 22, 165-178	3.8	22
135	Towards Unified Programmability of Cloud and Carrier Infrastructure **2014**,		22
134	How (Not) to Shoot in Your Foot with SDN Local Fast Failover. *Lecture Notes in Computer Science*, **2013**, 68-82	0.9	22
133	Survey of Reconfigurable Data Center Networks. *ACM SIGACT News*, **2019**, 50, 62-79	0.3	21
132	Chronus: Consistent Data Plane Updates in Timed SDNs **2017**,		20
131	SKIP +. *Journal of the ACM*, **2014**, 61, 1-26	2	20
130	Speed Dating Despite Jammers. *Lecture Notes in Computer Science*, **2009**, 1-14	0.9	20
129	Competitive and Deterministic Embeddings of Virtual Networks. *Lecture Notes in Computer Science*, **2012**, 106-121	0.9	19
128	Competitive and fair throughput for co-existing networks under adversarial interference **2012**,		19
127	A Jamming-Resistant MAC Protocol for Multi-Hop Wireless Networks. *Lecture Notes in Computer Science*, **2010**, 179-193	0.9	19
126	Demand-Aware Network Design with Minimal Congestion and Route Lengths **2019**,		18
125	SHEAR: A Highly Available and Flexible Network Architecture Marrying Distributed and Logically Centralized Control Planes **2015**,		18
124	rDAN : Toward robust demand-aware network designs. *Information Processing Letters*, **2018**, 133, 5-9	0.8	17
123	Efficient Loop-Free Rerouting of Multiple SDN Flows. *IEEE/ACM Transactions on Networking*, **2018**, 26, 948-961	3.8	17
122	Outsmarting Network Security with SDN Teleportation **2017**,		17

121	Charting the Complexity Landscape of Virtual Network Embeddings **2018**,		17
120	Self-stabilizing leader election for single-hop wireless networks despite jamming **2011**,		16
119	Kraken: Online and elastic resource reservations for multi-tenant datacenters **2016**,		16
118	Approximate and incremental network function placement. *Journal of Parallel and Distributed Computing*, **2018**, 120, 159-169	4.4	16
117	On the Complexity of Non-Segregated Routing in Reconfigurable Data Center Architectures. *Computer Communication Review*, **2019**, 49, 2-8	1.4	15
116	Competitive and deterministic embeddings of virtual networks. *Theoretical Computer Science*, **2013**, 496, 184-194	1.1	15
115	Competitive MAC under adversarial SINR **2014**,		15
114	Survey on Blockchain Networking. *ACM Computing Surveys*, **2021**, 54, 1-34	13.4	15
113	Virtual Network Embedding Approximations: Leveraging Randomized Rounding. *IEEE/ACM Transactions on Networking*, **2019**, 27, 2071-2084	3.8	15
112	P-Rex **2018**,		15
111	CASA: Congestion and Stretch Aware Static Fast Rerouting **2019**,		13
110	It's About Time: On Optimal Virtual Network Embeddings under Temporal Flexibilities **2014**,		13
109	Scheduling Congestion- and Loop-Free Network Update in Timed SDNs. *IEEE Journal on Selected Areas in Communications*, **2017**, 35, 2542-2552	14.2	12
108	Online Balanced Repartitioning. *Lecture Notes in Computer Science*, **2016**, 243-256	0.9	12
107	TI-MFA: Keep calm and reroute segments fast **2018**,		11
106	Local Fast Failover Routing With Low Stretch. *Computer Communication Review*, **2018**, 48, 35-41	1.4	11
105	Scheduling Congestion-Free Updates of Multiple Flows with Chronicle in Timed SDNs **2018**,		11
104	Towards higher-dimensional topological self-stabilization: A distributed algorithm for Delaunay graphs. *Theoretical Computer Science*, **2012**, 457, 137-148	1.1	11

103	Toward Active and Passive Confidentiality Attacks on Cryptocurrency Off-chain Networks **2020**,		11
102	Guest Editorial Scalability Issues and Solutions for Software Defined Networks. *IEEE Journal on Selected Areas in Communications*, **2018**, 36, 2595-2602	14.2	11
101	Virtual Network Embedding Approximations: Leveraging Randomized Rounding **2018**,		11
100	Distributed Self-Adjusting Tree Networks **2019**,		10
99	Parametrized complexity of virtual network embeddings. *Computer Communication Review*, **2019**, 49, 3-10	1.4	10
98	On the Hardness and Inapproximability of Virtual Network Embeddings. *IEEE/ACM Transactions on Networking*, **2020**, 28, 791-803	3.8	10
97	Kraken: Online and Elastic Resource Reservations for Cloud Datacenters. *IEEE/ACM Transactions on Networking*, **2018**, 26, 422-435	3.8	10
96	Locally Self-Adjusting Tree Networks **2013**,		10
95	The Programmable Data Plane. *ACM Computing Surveys*, **2021**, 54, 1-36	13.4	10
94	Runtime Verification of P4 Switches with Reinforcement Learning **2019**,		9
93	Congestion-Free Rerouting of Multiple Flows in Timed SDNs. *IEEE Journal on Selected Areas in Communications*, **2019**, 37, 968-981	14.2	9
92	Deadline-Aware Multicast Transfers in Software-Defined Optical Wide-Area Networks. *IEEE Journal on Selected Areas in Communications*, **2020**, 38, 1584-1599	14.2	9
91	PURR: a primitive for reconfigurable fast reroute **2019**,		9
90	Polynomial-Time What-If Analysis for Prefix-Manipulating MPLS Networks **2018**,		9
89	Renaissance: A Self-Stabilizing Distributed SDN Control Plane **2018**,		8
88	Charting the Algorithmic Complexity of Waypoint Routing. *Computer Communication Review*, **2018**, 48, 42-48	1.4	8
87	A Note on the Parallel Runtime of Self-Stabilizing Graph Linearization. *Theory of Computing Systems* , **2014**, 55, 110-135	0.6	8
86	. *IEEE Communications Surveys and Tutorials*, **2021**, 23, 1253-1301	37.1	8

85	Toward Consistent SDNs: A Case for Network State Fuzzing. *IEEE Transactions on Network and Service Management*, **2020**, 17, 668-681	4.8	7
84	Sade: competitive MAC under adversarial SINR. *Distributed Computing*, **2018**, 31, 241-254	1.2	7
83	Bonsai: Efficient Fast Failover Routing Using Small Arborescences **2019**,		6
82	On the Complexity of Traffic Traces and Implications. *Proceedings of the ACM on Measurement and Analysis of Computing Systems*, **2020**, 4, 1-29	1.4	6
81	AalWiNes **2020**,		6
80	Efficient Non-Segregated Routing for Reconfigurable Demand-Aware Networks **2019**,		6
79	Demand-aware network designs of bounded degree. *Distributed Computing*, **2020**, 33, 311-325	1.2	6
78	Supporting Emerging Applications With Low-Latency Failover in P4 **2018**,		6
77	Load-Optimal Local Fast Rerouting for Dense Networks. *IEEE/ACM Transactions on Networking*, **2018**, 26, 2583-2597	3.8	6
76	Survey on Algorithms for Self-stabilizing Overlay Networks. *ACM Computing Surveys*, **2020**, 53, 1-24	13.4	5
75	Efficient non-segregated routing for reconfigurable demand-aware networks. *Computer Communications*, **2020**, 164, 138-147	5.1	5
74	Latte. *Performance Evaluation Review*, **2021**, 48, 14-26	0.4	5
73	Ahab: Data-Driven Virtual Cluster Hunting **2018**,		5
72	A Survey of Reconfigurable Optical Networks. *Optical Switching and Networking*, **2021**, 41, 100621	1.6	5
71	Software-Defined Reconfigurable Intelligent Surfaces: From Theory to End-to-End Implementation. *Proceedings of the IEEE*, **2022**, 1-28	14.3	5
70	Ismael: Using Machine Learning to Predict Acceptance of Virtual Clusters in Data Centers. *IEEE Transactions on Network and Service Management*, **2019**, 16, 950-964	4.8	4
69	Distributed Dominating Set Approximations beyond Planar Graphs. *ACM Transactions on Algorithms* , **2019**, 15, 1-18	1.2	4
68	Load-Optimal Local Fast Rerouting for Resilient Networks **2017**,		4

67	. *IEEE Network*, **2020**, 34, 240-246	11.4	4
66	Load-Optimization in Reconfigurable Networks. *Performance Evaluation Review*, **2021**, 48, 39-44	0.4	4
65	Improved Fast Rerouting Using Postprocessing **2019**,		4
64	On the Power of Preprocessing in Decentralized Network Optimization **2019**,		3
63	P4Consist: Toward Consistent P4 SDNs. *IEEE Journal on Selected Areas in Communications*, **2020**, 38, 1293-1307	14.2	3
62	Online Aggregation of the Forwarding Information Base: Accounting for Locality and Churn. *IEEE/ACM Transactions on Networking*, **2018**, 26, 591-604	3.8	3
61	The show must go on: Fundamental data plane connectivity services for dependable SDNs. *Computer Communications*, **2018**, 116, 172-183	5.1	3
60	Competitive clustering of stochastic communication patterns on a ring. *Computing (Vienna/New York)*, **2019**, 101, 1369-1390	2.2	3
59	OBST: A self-adjusting peer-to-peer overlay based on multiple BSTs **2013**,		3
58	Cerberus. *Proceedings of the ACM on Measurement and Analysis of Computing Systems*, **2021**, 5, 1-33	1.4	3
57	SOK **2020**,		3
56	Efficient non-segregated routing for reconfigurable demand-aware networks **2019**,		3
55	A Walk in the Clouds: Routing Through VNFs on Bidirected Networks. *Lecture Notes in Computer Science*, **2018**, 11-26	0.9	3
54	Walking Through Waypoints. *Lecture Notes in Computer Science*, **2018**, 37-51	0.9	3
53	Dynamic Balanced Graph Partitioning. *SIAM Journal on Discrete Mathematics*, **2020**, 34, 1791-1812	0.7	3
52	AirNet: Energy-Aware Deployment and Scheduling of Aerial Networks. *IEEE Transactions on Vehicular Technology*, **2020**, 69, 12252-12263	6.8	3
51	Fast ReRoute on Programmable Switches. *IEEE/ACM Transactions on Networking*, **2021**, 29, 637-650	3.8	3
50	Empirical Predictability Study of SDN Switches **2019**,		3

49	Tomographic Node Placement Strategies and the Impact of the Routing Model **2018**,		3
48	A Constant Approximation for Maximum Throughput Multicommodity Routing And Its Application to Delay-Tolerant Network Scheduling **2019**,		2
47	Guest Editorial Leveraging Machine Learning in SDN/NFV-Based Networks. *IEEE Journal on Selected Areas in Communications*, **2020**, 38, 245-247	14.2	2
46	RoSCo: Robust Updates for Software-Defined Networks. *IEEE Journal on Selected Areas in Communications*, **2020**, 38, 1352-1365	14.2	2
45	Walking Through Waypoints. *Algorithmica*, **2020**, 82, 1784-1812	0.9	2
44	Local Fast Rerouting with Low Congestion: A Randomized Approach **2019**,		2
43	Data locality and replica aware virtual cluster embeddings. *Theoretical Computer Science*, **2017**, 697, 37-57	1.1	2
42	How Hard Can It Be?: Understanding the Complexity of Replica Aware Virtual Cluster Embeddings **2015**,		2
41	On Search Friction of Route Discovery in Offchain Networks **2020**,		2
40	A Survey of Fast Recovery Mechanisms in the Data Plane		2
39	On the Benefits of Joint Optimization of Reconfigurable CDN-ISP Infrastructure. *IEEE Transactions on Network and Service Management*, **2021**, 1-1	4.8	2
38	Incentivizing stable path selection in future Internet architectures. *Performance Evaluation*, **2020**, 144, 102137	1.2	2
37	Demand Matrix Optimization for Offchain Payments in Blockchain **2021**,		2
36	Demand-Aware Plane Spanners of Bounded Degree **2021**,		2
35	Distributed Consistent Network Updates in SDNs: Local Verification for Global Guarantees **2019**,		2
34	Waypoint Routing in Special Networks **2018**,		2
33	Guest Editors Introduction: Special Section on Novel Techniques for Managing Softwarized Networks. *IEEE Transactions on Network and Service Management*, **2018**, 15, 1192-1196	4.8	2
32	Transiently Policy-Compliant Network Updates. *IEEE/ACM Transactions on Networking*, **2018**, 26, 2569-2582	3.2	2

31	Improved scalability of demand-aware datacenter topologies with minimal route lengths and congestion. *Performance Evaluation*, **2021**, 102238	1.2	2
30	Self-adjusting Linear Networks. *Lecture Notes in Computer Science*, **2019**, 332-335	0.9	1
29	Competitive Clustering of Stochastic Communication Patterns on a Ring. *Lecture Notes in Computer Science*, **2017**, 231-247	0.9	1
28	Working Set Theorems for Routing in Self-Adjusting Skip List Networks **2020**,		1
27	**2021**,		1
26	Grafting Arborescences for Extra Resilience of Fast Rerouting Schemes **2021**,		1
25	It's Good to Relax: Fast Profit Approximation for Virtual Networks with Latency Constraints **2021**,		1
24	DeepMPLS: fast analysis of MPLS configurations using deep learning **2019**,		1
23	Nap: Network-Aware Data Partitions for Efficient Distributed Processing **2019**,		1
22	Breeding Unicorns: Developing Trustworthy and Scalable Randomness Beacons **2019**,		1
21	perfbench **2018**,		1
20	An axiomatic perspective on the performance effects of end-host path selection. *Performance Evaluation*, **2021**, 151, 102233	1.2	1
19	Empirical evaluation of nodes and channels of the lightning network. *Pervasive and Mobile Computing*, **2022**, 101584	3.5	1
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17	Breeding unicorns: Developing trustworthy and scalable randomness beacons. *PLoS ONE*, **2020**, 15, e0232261	3.7	0
16	Dynamically Optimal Self-adjusting Single-Source Tree Networks. *Lecture Notes in Computer Science* , **2020**, 143-154	0.9	0
15	Self-adjusting Linear Networks. *Lecture Notes in Computer Science*, **2019**, 368-382	0.9	0
14	Online Dynamic B-Matching. *Performance Evaluation Review*, **2021**, 48, 99-108	0.4	0

13	Preacher: Network Policy Checker for Adversarial Environments. *IEEE/ACM Transactions on Networking*, **2021**, 1-14	3.8	0
12	Distributed Self-Adjusting Tree Networks. *IEEE Transactions on Cloud Computing*, **2021**, 1-1	3.3	0
11	Automata-Theoretic Approach to Verification of MPLS Networks Under Link Failures. *IEEE/ACM Transactions on Networking*, **2021**, 1-16	3.8	
10	CacheNet: Leveraging the principle of locality in reconfigurable network design. *Computer Networks*, **2022**, 204, 108648	5.4	
9	On the Implications of Routing Models on Network Optimization. *IEEE Transactions on Network and Service Management*, **2021**, 1-1	4.8	
8	Designing Algorithms for Data-Driven Network Management and Control: State-of-the-Art and Challenges 1 **2021**, 175-198		
7	Demand-Aware Network Design With Minimal Congestion and Route Lengths. *IEEE/ACM Transactions on Networking*, **2022**, 1-11	3.8	
6	An Axiomatic Perspective on the Performance Effects of End-Host Path Selection. *Performance Evaluation Review*, **2022**, 49, 16-17	0.4	
5	Improved Scalability of Demand-Aware Datacenter Topologies With Minimal Route Lengths and Congestion. *Performance Evaluation Review*, **2022**, 49, 35-36	0.4	
4	Optimizing multicast flows in high-bandwidth reconfigurable datacenter networks. *Journal of Network and Computer Applications*, **2022**, 203, 103399	7.9	
3	Local Fast Rerouting With Low Congestion: A Randomized Approach. *IEEE/ACM Transactions on Networking*, **2022**, 1-16	3.8	
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1	AllSynth: Transiently Correct Network Update Synthesis Accounting for Operator Preferences. *Lecture Notes in Computer Science*, **2022**, 344-362	0.9	