

# Stefan Schmid

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	CacheNet: Leveraging the principle of locality in reconfigurable network design. <i>Computer Networks</i> , <b>2022</b> , 204, 108648	5.4	
155	Demand-Aware Network Design With Minimal Congestion and Route Lengths. <i>IEEE/ACM Transactions on Networking</i> , <b>2022</b> , 1-11	3.8	
154	An Axiomatic Perspective on the Performance Effects of End-Host Path Selection. <i>Performance Evaluation Review</i> , <b>2022</b> , 49, 16-17	0.4	
153	Improved Scalability of Demand-Aware Datacenter Topologies With Minimal Route Lengths and Congestion. <i>Performance Evaluation Review</i> , <b>2022</b> , 49, 35-36	0.4	
152	Empirical evaluation of nodes and channels of the lightning network. <i>Pervasive and Mobile Computing</i> , <b>2022</b> , 101584	3.5	1
151	Software-Defined Reconfigurable Intelligent Surfaces: From Theory to End-to-End Implementation. <i>Proceedings of the IEEE</i> , <b>2022</b> , 1-28	14.3	5
150	Optimizing multicast flows in high-bandwidth reconfigurable datacenter networks. <i>Journal of Network and Computer Applications</i> , <b>2022</b> , 203, 103399	7.9	
149	Local Fast Rerouting With Low Congestion: A Randomized Approach. <i>IEEE/ACM Transactions on Networking</i> , <b>2022</b> , 1-16	3.8	
148	Push-Down Trees: Optimal Self-Adjusting Complete Trees. <i>IEEE/ACM Transactions on Networking</i> , <b>2022</b> , 1-14	3.8	
147	AllSynth: Transiently Correct Network Update Synthesis Accounting for Operator Preferences. <i>Lecture Notes in Computer Science</i> , <b>2022</b> , 344-362	0.9	
146	Cerberus. <i>Proceedings of the ACM on Measurement and Analysis of Computing Systems</i> , <b>2021</b> , 5, 1-33	1.4	3
145	Automata-Theoretic Approach to Verification of MPLS Networks Under Link Failures. <i>IEEE/ACM Transactions on Networking</i> , <b>2021</b> , 1-16	3.8	
144	On the Benefits of Joint Optimization of Reconfigurable CDN-ISP Infrastructure. <i>IEEE Transactions on Network and Service Management</i> , <b>2021</b> , 1-1	4.8	2
143	Online Dynamic B-Matching. <i>Performance Evaluation Review</i> , <b>2021</b> , 48, 99-108	0.4	0
142	Load-Optimization in Reconfigurable Networks. <i>Performance Evaluation Review</i> , <b>2021</b> , 48, 39-44	0.4	4
141	Latte. <i>Performance Evaluation Review</i> , <b>2021</b> , 48, 14-26	0.4	5
140	Fast ReRoute on Programmable Switches. <i>IEEE/ACM Transactions on Networking</i> , <b>2021</b> , 29, 637-650	3.8	3

139	<b>2021,</b>			1
138	Demand Matrix Optimization for Offchain Payments in Blockchain <b>2021,</b>			2
137	Grafting Arborescences for Extra Resilience of Fast Rerouting Schemes <b>2021,</b>			1
136	Survey on Blockchain Networking. <i>ACM Computing Surveys</i> , <b>2021</b> , 54, 1-34	13.4		15
135	Demand-Aware Plane Spanners of Bounded Degree <b>2021,</b>			2
134	It's Good to Relax: Fast Profit Approximation for Virtual Networks with Latency Constraints <b>2021,</b>			1
133	. <i>IEEE Communications Surveys and Tutorials</i> , <b>2021</b> , 23, 1253-1301	37.1		8
132	Preacher: Network Policy Checker for Adversarial Environments. <i>IEEE/ACM Transactions on Networking</i> , <b>2021</b> , 1-14	3.8		0
131	On the Implications of Routing Models on Network Optimization. <i>IEEE Transactions on Network and Service Management</i> , <b>2021</b> , 1-1	4.8		
130	The Programmable Data Plane. <i>ACM Computing Surveys</i> , <b>2021</b> , 54, 1-36	13.4		10
129	Designing Algorithms for Data-Driven Network Management and Control: State-of-the-Art and Challenges 1 <b>2021</b> , 175-198			
128	A Survey of Reconfigurable Optical Networks. <i>Optical Switching and Networking</i> , <b>2021</b> , 41, 100621	1.6		5
127	An axiomatic perspective on the performance effects of end-host path selection. <i>Performance Evaluation</i> , <b>2021</b> , 151, 102233	1.2		1
126	Improved scalability of demand-aware datacenter topologies with minimal route lengths and congestion. <i>Performance Evaluation</i> , <b>2021</b> , 102238	1.2		2
125	Distributed Self-Adjusting Tree Networks. <i>IEEE Transactions on Cloud Computing</i> , <b>2021</b> , 1-1	3.3		0
124	Deadline-Aware Multicast Transfers in Software-Defined Optical Wide-Area Networks. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2020</b> , 38, 1584-1599	14.2		9
123	. <i>IEEE Transactions on Dependable and Secure Computing</i> , <b>2020</b> , 1-1	3.9		0
122	On the Hardness and Inapproximability of Virtual Network Embeddings. <i>IEEE/ACM Transactions on Networking</i> , <b>2020</b> , 28, 791-803	3.8		10

121	P4Consist: Toward Consistent P4 SDNs. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2020</b> , 38, 1293-1307	14.2	3
120	Guest Editorial Leveraging Machine Learning in SDN/NFV-Based Networks. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2020</b> , 38, 245-247	14.2	2
119	RoSCo: Robust Updates for Software-Defined Networks. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2020</b> , 38, 1352-1365	14.2	2
118	Breeding unicorns: Developing trustworthy and scalable randomness beacons. <i>PLoS ONE</i> , <b>2020</b> , 15, e0232261	3.7	0
117	Walking Through Waypoints. <i>Algorithmica</i> , <b>2020</b> , 82, 1784-1812	0.9	2
116	On Search Friction of Route Discovery in Offchain Networks <b>2020</b> ,		2
115	On the Complexity of Traffic Traces and Implications. <i>Proceedings of the ACM on Measurement and Analysis of Computing Systems</i> , <b>2020</b> , 4, 1-29	1.4	6
114	AalWiNes <b>2020</b> ,		6
113	Survey on Algorithms for Self-stabilizing Overlay Networks. <i>ACM Computing Surveys</i> , <b>2020</b> , 53, 1-24	13.4	5
112	Dynamically Optimal Self-adjusting Single-Source Tree Networks. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 143-154	0.9	0
111	SOK <b>2020</b> ,		3
110	Toward Active and Passive Confidentiality Attacks on Cryptocurrency Off-chain Networks <b>2020</b> ,		11
109	Toward Consistent SDNs: A Case for Network State Fuzzing. <i>IEEE Transactions on Network and Service Management</i> , <b>2020</b> , 17, 668-681	4.8	7
108	Incentivizing stable path selection in future Internet architectures. <i>Performance Evaluation</i> , <b>2020</b> , 144, 102137	1.2	2
107	Efficient non-segregated routing for reconfigurable demand-aware networks. <i>Computer Communications</i> , <b>2020</b> , 164, 138-147	5.1	5
106	. <i>IEEE Network</i> , <b>2020</b> , 34, 240-246	11.4	4
105	Dynamic Balanced Graph Partitioning. <i>SIAM Journal on Discrete Mathematics</i> , <b>2020</b> , 34, 1791-1812	0.7	3
104	Working Set Theorems for Routing in Self-Adjusting Skip List Networks <b>2020</b> ,		1

103	AirNet: Energy-Aware Deployment and Scheduling of Aerial Networks. <i>IEEE Transactions on Vehicular Technology</i> , <b>2020</b> , 69, 12252-12263	6.8	3
102	Demand-aware network designs of bounded degree. <i>Distributed Computing</i> , <b>2020</b> , 33, 311-325	1.2	6
101	Runtime Verification of P4 Switches with Reinforcement Learning <b>2019</b> ,		9
100	Ismael: Using Machine Learning to Predict Acceptance of Virtual Clusters in Data Centers. <i>IEEE Transactions on Network and Service Management</i> , <b>2019</b> , 16, 950-964	4.8	4
99	On the Complexity of Non-Segregated Routing in Reconfigurable Data Center Architectures. <i>Computer Communication Review</i> , <b>2019</b> , 49, 2-8	1.4	15
98	Bonsai: Efficient Fast Failover Routing Using Small Arborescences <b>2019</b> ,		6
97	A Constant Approximation for Maximum Throughput Multicommodity Routing And Its Application to Delay-Tolerant Network Scheduling <b>2019</b> ,		2
96	Distributed Self-Adjusting Tree Networks <b>2019</b> ,		10
95	On the Power of Preprocessing in Decentralized Network Optimization <b>2019</b> ,		3
94	Demand-Aware Network Design with Minimal Congestion and Route Lengths <b>2019</b> ,		18
93	CASA: Congestion and Stretch Aware Static Fast Rerouting <b>2019</b> ,		13
92	Congestion-Free Rerouting of Multiple Flows in Timed SDNs. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2019</b> , 37, 968-981	14.2	9
91	Parametrized complexity of virtual network embeddings. <i>Computer Communication Review</i> , <b>2019</b> , 49, 3-10	1.4	10
90	Adaptable and Data-Driven Softwarized Networks: Review, Opportunities, and Challenges. <i>Proceedings of the IEEE</i> , <b>2019</b> , 107, 711-731	14.3	51
89	Competitive clustering of stochastic communication patterns on a ring. <i>Computing (Vienna/New York)</i> , <b>2019</b> , 101, 1369-1390	2.2	3
88	Distributed Dominating Set Approximations beyond Planar Graphs. <i>ACM Transactions on Algorithms</i> , <b>2019</b> , 15, 1-18	1.2	4
87	Local Fast Rerouting with Low Congestion: A Randomized Approach <b>2019</b> ,		2
86	Survey of Reconfigurable Data Center Networks. <i>ACM SIGACT News</i> , <b>2019</b> , 50, 62-79	0.3	21

85	Efficient non-segregated routing for reconfigurable demand-aware networks <b>2019</b> ,		3
84	Self-adjusting Linear Networks. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 332-335	0.9	1
83	Self-adjusting Linear Networks. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 368-382	0.9	0
82	Toward demand-aware networking. <i>Computer Communication Review</i> , <b>2019</b> , 48, 31-40	1.4	26
81	DeepMPLS: fast analysis of MPLS configurations using deep learning <b>2019</b> ,		1
80	Distributed Consistent Network Updates in SDNs: Local Verification for Global Guarantees <b>2019</b> ,		2
79	Efficient Non-Segregated Routing for Reconfigurable Demand-Aware Networks <b>2019</b> ,		6
78	Nap: Network-Aware Data Partitions for Efficient Distributed Processing <b>2019</b> ,		1
77	Breeding Unicorns: Developing Trustworthy and Scalable Randomness Beacons <b>2019</b> ,		1
76	Improved Fast Rerouting Using Postprocessing <b>2019</b> ,		4
75	Empirical Predictability Study of SDN Switches <b>2019</b> ,		3
74	Virtual Network Embedding Approximations: Leveraging Randomized Rounding. <i>IEEE/ACM Transactions on Networking</i> , <b>2019</b> , 27, 2071-2084	3.8	15
73	PURR: a primitive for reconfigurable fast reroute <b>2019</b> ,		9
72	Survey of Consistent Software-Defined Network Updates. <i>IEEE Communications Surveys and Tutorials</i> , <b>2019</b> , 21, 1435-1461	37.1	47
71	Online Aggregation of the Forwarding Information Base: Accounting for Locality and Churn. <i>IEEE/ACM Transactions on Networking</i> , <b>2018</b> , 26, 591-604	3.8	3
70	Kraken: Online and Elastic Resource Reservations for Cloud Datacenters. <i>IEEE/ACM Transactions on Networking</i> , <b>2018</b> , 26, 422-435	3.8	10
69	rDAN : Toward robust demand-aware network designs. <i>Information Processing Letters</i> , <b>2018</b> , 133, 5-9	0.8	17
68	The show must go on: Fundamental data plane connectivity services for dependable SDNs. <i>Computer Communications</i> , <b>2018</b> , 116, 172-183	5.1	3

67	Efficient Loop-Free Rerouting of Multiple SDN Flows. <i>IEEE/ACM Transactions on Networking</i> , <b>2018</b> , 26, 948-961	3.8	17
66	TI-MFA: Keep calm and reroute segments fast <b>2018</b> ,		11
65	Renaissance: A Self-Stabilizing Distributed SDN Control Plane <b>2018</b> ,		8
64	Charting the Algorithmic Complexity of Waypoint Routing. <i>Computer Communication Review</i> , <b>2018</b> , 48, 42-48	1.4	8
63	Local Fast Failover Routing With Low Stretch. <i>Computer Communication Review</i> , <b>2018</b> , 48, 35-41	1.4	11
62	Scheduling Congestion-Free Updates of Multiple Flows with Chronicle in Timed SDNs <b>2018</b> ,		11
61	A Walk in the Clouds: Routing Through VNFs on Bidirected Networks. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 11-26	0.9	3
60	Walking Through Waypoints. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 37-51	0.9	3
59	Loop-Free Route Updates for Software-Defined Networks. <i>IEEE/ACM Transactions on Networking</i> , <b>2018</b> , 26, 328-341	3.8	24
58	Sade: competitive MAC under adversarial SINR. <i>Distributed Computing</i> , <b>2018</b> , 31, 241-254	1.2	7
57	perfbench <b>2018</b> ,		1
56	Waypoint Routing in Special Networks <b>2018</b> ,		2
55	Ahab: Data-Driven Virtual Cluster Hunting <b>2018</b> ,		5
54	Guest Editors Introduction: Special Section on Novel Techniques for Managing Softwarized Networks. <i>IEEE Transactions on Network and Service Management</i> , <b>2018</b> , 15, 1192-1196	4.8	2
53	Supporting Emerging Applications With Low-Latency Failover in P4 <b>2018</b> ,		6
52	Characterizing the algorithmic complexity of reconfigurable data center architectures <b>2018</b> ,		23
51	P-Rex <b>2018</b> ,		15
50	Transiently Policy-Compliant Network Updates. <i>IEEE/ACM Transactions on Networking</i> , <b>2018</b> , 26, 2569-2588	3.8	2

49	Polynomial-Time What-If Analysis for Prefix-Manipulating MPLS Networks <b>2018</b> ,		9
48	Guest Editorial Scalability Issues and Solutions for Software Defined Networks. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2018</b> , 36, 2595-2602	14.2	11
47	Tomographic Node Placement Strategies and the Impact of the Routing Model <b>2018</b> ,		3
46	Load-Optimal Local Fast Rerouting for Dense Networks. <i>IEEE/ACM Transactions on Networking</i> , <b>2018</b> , 26, 2583-2597	3.8	6
45	Charting the Complexity Landscape of Virtual Network Embeddings <b>2018</b> ,		17
44	Virtual Network Embedding Approximations: Leveraging Randomized Rounding <b>2018</b> ,		11
43	Approximate and incremental network function placement. <i>Journal of Parallel and Distributed Computing</i> , <b>2018</b> , 120, 159-169	4.4	16
42	Data locality and replica aware virtual cluster embeddings. <i>Theoretical Computer Science</i> , <b>2017</b> , 697, 37-57.1		2
41	Outsmarting Network Security with SDN Teleportation <b>2017</b> ,		17
40	Load-Optimal Local Fast Rerouting for Resilient Networks <b>2017</b> ,		4
39	Chronus: Consistent Data Plane Updates in Timed SDNs <b>2017</b> ,		20
38	Scheduling Congestion- and Loop-Free Network Update in Timed SDNs. <i>IEEE Journal on Selected Areas in Communications</i> , <b>2017</b> , 35, 2542-2552	14.2	12
37	Competitive Clustering of Stochastic Communication Patterns on a Ring. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 231-247	0.9	1
36	SplayNet: Towards Locally Self-Adjusting Networks. <i>IEEE/ACM Transactions on Networking</i> , <b>2016</b> , 24, 1421-1433	3.8	27
35	Stitching Inter-Domain Paths over IXPs <b>2016</b> ,		22
34	It's a Match!. <i>Computer Communication Review</i> , <b>2016</b> , 46, 30-36	1.4	42
33	Transiently Secure Network Updates <b>2016</b> ,		26
32	An Approximation Algorithm for Path Computation and Function Placement in SDNs. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 374-390	0.9	33



31	Online Balanced Repartitioning. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 243-256	0.9	12
30	Kraken: Online and elastic resource reservations for multi-tenant datacenters <b>2016</b> ,		16
29	Scheduling Loop-free Network Updates <b>2015</b> ,		46
28	Beyond the Stars. <i>Computer Communication Review</i> , <b>2015</b> , 45, 12-18	1.4	22
27	SHEAR: A Highly Available and Flexible Network Architecture Marrying Distributed and Logically Centralized Control Planes <b>2015</b> ,		18
26	How Hard Can It Be?: Understanding the Complexity of Replica Aware Virtual Cluster Embeddings <b>2015</b> ,		2
25	A distributed and robust SDN control plane for transactional network updates <b>2015</b> ,		61
24	Online Admission Control and Embedding of Service Chains. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 104-118	0.9	54
23	A Note on the Parallel Runtime of Self-Stabilizing Graph Linearization. <i>Theory of Computing Systems</i> , <b>2014</b> , 55, 110-135	0.6	8
22	. <i>IEEE/ACM Transactions on Networking</i> , <b>2014</b> , 22, 165-178	3.8	22
21	Provable data plane connectivity with local fast failover <b>2014</b> ,		53
20	Towards Unified Programmability of Cloud and Carrier Infrastructure <b>2014</b> ,		22
19	SKIP +. <i>Journal of the ACM</i> , <b>2014</b> , 61, 1-26	2	20
18	Good Network Updates for Bad Packets <b>2014</b> ,		44
17	Competitive MAC under adversarial SINR <b>2014</b> ,		15
16	It's About Time: On Optimal Virtual Network Embeddings under Temporal Flexibilities <b>2014</b> ,		13
15	Competitive and deterministic embeddings of virtual networks. <i>Theoretical Computer Science</i> , <b>2013</b> , 496, 184-194	1.1	15
14	OBST: A self-adjusting peer-to-peer overlay based on multiple BSTs <b>2013</b> ,		3

13	Locally Self-Adjusting Tree Networks <b>2013</b> ,		10
12	Incremental SDN deployment in enterprise networks <b>2013</b> ,		26
11	Exploiting locality in distributed SDN control <b>2013</b> ,		112
10	How (Not) to Shoot in Your Foot with SDN Local Fast Failover. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 68-82	0.9	22
9	Towards higher-dimensional topological self-stabilization: A distributed algorithm for Delaunay graphs. <i>Theoretical Computer Science</i> , <b>2012</b> , 457, 137-148	1.1	11
8	Competitive and Deterministic Embeddings of Virtual Networks. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 106-121	0.9	19
7	Competitive and fair throughput for co-existing networks under adversarial interference <b>2012</b> ,		19
6	Competitive and Fair Medium Access Despite Reactive Jamming <b>2011</b> ,		31
5	Self-stabilizing leader election for single-hop wireless networks despite jamming <b>2011</b> ,		16
4	A Jamming-Resistant MAC Protocol for Multi-Hop Wireless Networks. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 179-193	0.9	19
3	Speed Dating Despite Jammers. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 1-14	0.9	20
2	A Self-repairing Peer-to-Peer System Resilient to Dynamic Adversarial Churn. <i>Lecture Notes in Computer Science</i> , <b>2005</b> , 13-23	0.9	37
1	A Survey of Fast Recovery Mechanisms in the Data Plane		2