JÃ¡nos Tapolcai

List of Publications by Year
in descending order

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153	1,909	394421	414414
papers	citations	19 h-index	32 g-index

156	156	156	1093
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	On batch verification with group testing for vehicular communications. Wireless Networks, 2011, 17, 1851-1865.	3.0	127
2	A survey of strategies for communication networks to protect against large-scale natural disasters. , 2016, , .		90
3	Segment Shared Protection in Mesh Communications Networks With Bandwidth Guaranteed Tunnels. IEEE/ACM Transactions on Networking, 2004, 12, 1105-1118.	3.8	86
4	On Achieving Optimal Survivable Routing for Shared Protection in Survivable Next-Generation Internet. IEEE Transactions on Reliability, 2004, 53, 216-225.	4.6	79
5	Optimal Relay Station Placement in Broadband Wireless Access Networks. IEEE Transactions on Mobile Computing, 2010, 9, 259-269.	5.8	77
6	Quality of resilience as a network reliability characterization tool. IEEE Network, 2009, 23, 11-19.	6.9	66
7	On Monitoring and Failure Localization in Mesh All-Optical Networks. , 2009, , .		64
8	RECODIS: Resilient Communication Services Protecting End-user Applications from Disaster-based Failures. , 2016, , .		49
9	IP fast ReRoute: Loop Free Alternates revisited. , 2011, , .		44
10	Beacon Deployment for Unambiguous Positioning. IEEE Internet of Things Journal, 2017, 4, 1370-1379.	8.7	42
11	Compressing IP forwarding tables. Computer Communication Review, 2013, 43, 111-122.	1.8	39
12	A New Shared Segment Protection Method for Survivable Networks with Guaranteed Recovery Time. IEEE Transactions on Reliability, 2008, 57, 272-282.	4.6	38
13	A Novel Approach for Failure Localization in All-Optical Mesh Networks. IEEE/ACM Transactions on Networking, 2011, 19, 275-285.	3.8	38
14	Network-Wide Local Unambiguous Failure Localization (NWL-UFL) via Monitoring Trails. IEEE/ACM Transactions on Networking, 2012, 20, 1762-1773.	3.8	38
15	Optical Layer Monitoring Schemes for Fast Link Failure Localization in All-Optical Networks. IEEE Communications Surveys and Tutorials, 2011, 13, 114-125.	39.4	35
16	Optimal Rule Caching and Lossy Compression for Longest Prefix Matching. IEEE/ACM Transactions on Networking, 2017, 25, 864-878.	3.8	32
17	List of shared risk link groups representing regional failures with limited size. , 2017, , .		28
18	Compressing IP forwarding tables. , 2013, , .		27

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19	Adjacent Link Failure Localization With Monitoring Trails in All-Optical Mesh Networks. IEEE/ACM Transactions on Networking, 2011, 19, 907-920.	3.8	26
20	Optimal False-Positive-Free Bloom Filter Design for Scalable Multicast Forwarding. IEEE/ACM Transactions on Networking, 2015, 23, 1832-1845.	3.8	26
21	Optimal Allocation of Monitoring Trails for Fast SRLG Failure Localization in All-Optical Networks. , 2010, , .		25
22	A Tractable Stochastic Model of Correlated Link Failures Caused by Disasters. , 2018, , .		25
23	Failure Localization for Shared Risk Link Groups in All-Optical Mesh Networks Using Monitoring Trails. Journal of Lightwave Technology, 2011, 29, 1597-1606.	4.6	24
24	Spare Capacity Reprovisioning for Shared Backup Path Protection in Dynamic Generalized Multi-Protocol Label Switched Networks. IEEE Transactions on Reliability, 2008, 57, 551-563.	4.6	22
25	A Novel Framework of Fast and Unambiguous Link Failure Localization via Monitoring Trails. , 2010, , .		22
26	Lossy compression of packet classifiers. , 2015, , .		22
27	Cost comparison of 1+1 path protection schemes: A case for coding. , 2012, , .		21
28	Realization strategies of dedicated path protection: A bandwidth cost perspective. Computer Networks, 2013, 57, 1974-1990.	5.1	21
29	Optimizing IGP link costs for improving IP-level resilience with Loop-Free Alternates. Computer Communications, 2013, 36, 645-655.	5.1	20
30	Instantaneous recovery of unicast connections in transport networks: Routing versus coding. Computer Networks, 2015, 82, 68-80.	5.1	20
31	Sufficient conditions for protection routing in IP networks. Optimization Letters, 2013, 7, 723-730.	1.6	19
32	Compressing IP Forwarding Tables: Towards Entropy Bounds and Beyond. IEEE/ACM Transactions on Networking, 2016, 24, 149-162.	3.8	17
33	Bloom Filter With a False Positive Free Zone. IEEE Transactions on Network and Service Management, 2021, 18, 2334-2349.	4.9	17
34	Quality of resilience (QoR): nobel approach to the multi-service resilience characterization. , 0, , .		16
35	M-Burst: A Framework of SRLG Failure Localization in All-Optical Networks. Journal of Optical Communications and Networking, 2012, 4, 628.	4.8	16
36	Stateless multi-stage dissemination of information: Source routing revisited. , 2012, , .		16

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37	Topology-focused availability analysis of basic protection schemes in optical transport networks. Journal of Optical Networking, 2008, 7, 351.	2.5	15
38	On Optimal Topology Verification and Failure Localization for Software Defined Networks. IEEE/ACM Transactions on Networking, 2016, 24, 2899-2912.	3.8	15
39	Fundamentals of Communication Networks Resilience to Disasters and Massive Disruptions. Computer Communications and Networks, 2020, , 1-43.	0.8	14
40	Compressing IP Forwarding Tables: Realizing Information-Theoretical Space Bounds and Fast Lookups Simultaneously. , 2014, , .		13
41	On Signaling-Free Failure Dependent Restoration in All-Optical Mesh Networks. IEEE/ACM Transactions on Networking, 2014, 22, 1067-1078.	3.8	13
42	Neighborhood Failure Localization in All-Optical Networks via Monitoring Trails. IEEE/ACM Transactions on Networking, 2015, 23, 1719-1728.	3.8	13
43	Diversity Coding in Two-Connected Networks. IEEE/ACM Transactions on Networking, 2017, 25, 2308-2319.	3.8	13
44	Network Resiliency Against Earthquakes. , 2019, , .		13
45	Probabilistic Shared Risk Link Groups Modeling Correlated Resource Failures Caused by Disasters. IEEE Journal on Selected Areas in Communications, 2021, 39, 2672-2687.	14.0	13
46	Optimizing IGP link costs for improving IP-level resilience. , 2011, , .		12
47	SRLG failure localization with monitoring trails in all-optical mesh networks. , 2011, , .		12
48	On achieving all-optical failure restoration via monitoring trails. , 2013, , .		12
49	eFRADIR: An Enhanced FRAmework for DIsaster Resilience. IEEE Access, 2021, 9, 13125-13148.	4.2	12
50	Joint Quantification of Resilience and Quality of Service. , 2006, , .		11
51	Spare capacity reprovisioning for high availability shared backup path protection connections. Computer Communications, 2010, 33, 603-611.	5.1	11
52	Dimensioning and Site Planning of Integrated PON and Wireless Cooperative Networks for Fixed Mobile Convergence. IEEE Transactions on Vehicular Technology, 2011, 60, 4528-4538.	6.3	10
53	Scalable and Efficient Multipath Routing via Redundant Trees. IEEE Journal on Selected Areas in Communications, 2019, 37, 982-996.	14.0	10
54	Fast Enumeration of Regional Link Failures Caused by Disasters With Limited Size. IEEE/ACM Transactions on Networking, 2020, 28, 2421-2434.	3.8	10

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55	The Earth is nearly flat: Precise and approximate algorithms for detecting vulnerable regions of networks in the plane and on the sphere. Networks, 2020, 75, 340-355.	2.7	10
56	Optimal Solutions for Single Fault Localization in Two Dimensional Lattice Networks. , 2010, , .		9
57	Optimal dedicated protection approach to shared risk link group failures using network coding. , 2012, , .		9
58	On identifying SRLG failures in all-optical networks. Optical Switching and Networking, 2013, 10, 77-88.	2.0	9
59	Optimization methods for improving IP-level fast protection for local shared risk groups with Loop-Free Alternates. Telecommunication Systems, 2014, 56, 103-119.	2.5	9
60	A novel shared segment protection method for guaranteed recovery time. , 0, , .		8
61	TROP: A Novel Approximate Link-State Dissemination Framework For Dynamic Survivable Routing in MPLS Networks. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 311-322.	5.6	8
62	Multi-link Failure Localization via Monitoring Bursts. Journal of Optical Communications and Networking, 2014, 6, 952.	4.8	8
63	SRLG failure localization using nested m-trails and their application to adaptive probing. Networks, 2015, 66, 347-363.	2.7	8
64	Node Virtualization for IP Level Resilience. IEEE/ACM Transactions on Networking, 2018, 26, 1250-1263.	3.8	8
65	How to Model and Enumerate Geographically Correlated Failure Events in Communication Networks. Computer Communications and Networks, 2020, , 87-115.	0.8	8
66	Multi-domain issues of resilience. , 0, , .		7
67	Monitoring burst (M-burst) — A novel framework of failure localization in all-optical mesh networks. , 2011, , .		7
68	Scalable forwarding for information-centric networks. , 2013, , .		7
69	Resilient flow decomposition of unicast connections with network coding. , 2014, , .		7
70	FRADIR-II: An Improved Framework for Disaster Resilience. , 2019, , .		7
71	Minimum Cost Survivable Routing Algorithms for Generalized Diversity Coding. IEEE/ACM Transactions on Networking, 2020, 28, 289-300.	3.8	7
72	Spatio-Temporal Dynamic Spectrum Allocation with Interference Handling. , 2007, , .		6

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73	CFP: Cooperative Fast Protection. Journal of Lightwave Technology, 2010, 28, 1102-1113.	4.6	6
74	Compressing IP forwarding tables for fun and profit. , 2012, , .		6
75	Physical impairments of monitoring trails in all optical transparent networks. IET Networks, 2013, 2, 196-203.	1.8	6
76	Survivable routing meets diversity coding. , 2015, , .		6
77	Enumerating Maximal Shared Risk Link Groups of Circular Disk Failures HittingkNodes. IEEE/ACM Transactions on Networking, 2021, 29, 1648-1661.	3.8	6
78	A deeper study on segment shared protection. , 2004, , .		5
79	Availability-constrained Dedicated Segment Protection in circuit switched mesh networks. , 2009, , .		5
80	A meta-heuristic approach for non-bifurcated dedicated protection in WDM optical networks. , 2011, , .		5
81	Shared risk link group failure restoration with in-band approximate failure localization. Optical Switching and Networking, 2013, 10, 163-172.	2.0	5
82	SRLG fault localization via M-burst framework. , 2013, , .		5
83	Signaling free localization of node failures in all-optical networks. , 2014, , .		5
84	Survey on out-of-band failure localization in all-optical mesh networks. Telecommunication Systems, 2014, 56, 169-176.	2.5	5
85	On Network Topology Augmentation for Global Connectivity under Regional Failures. , 2021, , .		5
86	Considerations about service differentiation using a combined QoS/QoR approach. , 0, , .		4
87	CFP: Cooperative Fast Protection. , 2009, , .		4
88	Adaptive Bloom filters for multicast addressing. , 2011, , .		4
89	Link Fault Localization Using Bi-Directional M-Trails in All-Optical Mesh Networks. IEEE Transactions on Communications, 2013, 61, 291-300.	7.8	4
90	Router virtualization for improving IP-level resilience. , 2013, , .		4

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91	Scalable and Efficient Multipath Routing: Complexity and Algorithms. , 2015, , .		4
92	Robust Network Coding in transport networks. , 2015, , .		4
93	Shared Risk Link Group Enumeration of Node Excluding Disaster Failures. , 2016, , .		4
94	Vulnerable Regions of Networks on Sphere. , 2018, , .		4
95	Guest Editorial Special Issue on Information-Centric Wireless Sensor Networking (ICWSN) for IoT. IEEE Internet of Things Journal, 2022, 9, 844-845.	8.7	4
96	Class-based minimum interference routing for traffic engineering in optical networks. , 0, , .		3
97	Multi-layer traffic engineering schemes in GMPLS networks. , 0, , .		3
98	Network resilience requirements and algorithms for multicasting and broadcasting digital TV. , 2008, , .		3
99	Monitoring Trail Allocation for SRLG Failure Localization. , 2011, , .		3
100	Fault localization in all-optical ring networks. , 2014, , .		3
101	Fault localization in all-optical linear networks. , 2014, , .		3
102	Enumerating circular disk failures covering a single node. , 2016, , .		3
103	Signaling Free Localization of Node Failures in All-Optical Networks. IEEE Transactions on Communications, 2016, 64, 2527-2538.	7.8	3
104	A dataset on human navigation strategies in foreign networked systems. Scientific Data, 2018, 5, 180037.	5.3	3
105	Adaptive Protection of Scientific Backbone Networks Using Machine Learning. IEEE Transactions on Network and Service Management, 2021, 18, 1064-1076.	4.9	3
106	Dynamic survivable routing for shared segment protection. Journal of Communications and Networks, 2007, 9, 198-209.	2.6	2
107	Switching/merging node placement in survivable optical networks with SSP. Computer Communications, 2010, 33, 381-389.	5.1	2
108	SRLG failure localization in transparent optical mesh networks with monitoring trees and trails. , 2010, , .		2

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109	Reduced information scenario for Shared Segment Protection. , 2013, , .		2
110	SRLG failure localization using nested M-trails. , 2014, , .		2
111	Failure Restoration Approaches. , 2015, , 15-31.		2
112	SRLG fault localization using nested m-trails. Computer Networks, 2015, 85, 63-79.	5.1	2
113	Internet Optical Infrastructure. , 2015, , .		2
114	A Novel Dynamic Availability-Aware Survivable Routing Architecture with Partial Restorability. , 0, , .		1
115	A Study on Dynamic Survivable Routing with Availability Constraint for GMPLS-Based Recovery. , 2006, , .		1
116	Dedicated protection scheme with availability guarantee. , 2008, , .		1
117	Fast failure localization in all-optical networks with length-constrained monitoring trails. , 2012, , .		1
118	On Achieving All-Optical and Signaling-Free Failure Restoration Under Dynamic Traffic. Journal of Optical Communications and Networking, 2013, 5, 1391.	4.8	1
119	An Information-Theoretic Approach to Routing Scalability. , 2014, , .		1
120	On the design of Resilient IP Overlays. , 2014, , .		1
121	Combinatorial error detection in linear encoders. , 2015, , .		1
122	A heuristic algorithm for network-wide local unambiguous node failure localization. , 2015, , .		1
123	Unambiguous switching link group failure localization in all-optical networks. Networks, 2017, 70, 327-341.	2.7	1
124	On separating systems with bounded set size. Discrete Applied Mathematics, 2020, 276, 172-176.	0.9	1
125	High Availability in the Future Internet. Lecture Notes in Computer Science, 2013, , 64-76.	1.3	1
126	Network Survivability: End-to-End Recovery Using Local Failure Information. Texts in Theoretical Computer Science, 2009, , 137-161.	0.8	1

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127	Disaster-Resilient Routing Schemes forÂRegional Failures. Computer Communications and Networks, 2020, , 483-506.	0.8	1
128	Polynomial-Time Algorithm for the Regional SRLG-disjoint Paths Problem. , 2022, , .		1
129	Linear formulation for segment shared protection. , 2003, , .		0
130	Routing with partially disjoint shared path (PDSP) protection. , 0, , .		0
131	Shared Protection Based on Matrix Decomposition in Tropical Semi-Rings. , 0, , .		0
132	Novel availability metrics for network topologies. , 2008, , .		0
133	End-to-end service availability guarantee with Generalized Dedicated Protection. , 2008, , .		0
134	Hierarchical routing on unstructured identifiers. , 2008, , .		0
135	Novel availability metrics for network topologies. , 2008, , .		0
136	Hierarchical routing on unstructured identifiers. , 2008, , .		0
137	Network resilience requirements and algorithms for multicasting and broadcasting digital TV. , 2008, , .		0
138	IPTV: Technology, Practice, and Service. International Journal of Digital Multimedia Broadcasting, 2012, 2012, 1-2.	0.6	0
139	On integrating failure localization with network survivable design. , 2013, , .		0
140	Comments on `Availability Formulations for Segment Protection'. IEEE Transactions on Communications, 2013, 61, 2591-2591.	7.8	0
141	SRLG fault localization in all-optical networks. , 2015, , .		0
142	Constructions for unambiguous node failure localization in grid topologies. , 2015, , .		0
143	A novel m-trail allocation method for SRLG fault localization in all-optical networks. Optical Switching and Networking, 2017, 23, 179-188.	2.0	0
144	Packing strictly-shortest paths in a tree for QoS-aware routing. , 2017, , .		0

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145	On Pending Interest Table in Named Data Networking based Edge Computing: The Case of Mobile Augmented Reality. , 2019, , .		0
146	Demo Abstract: Monitoring-Flow Based Network Verification and Failure Localization in SDN. , 2019, , .		0
147	Failure Presumed Protection (FPP): Optical Recovery with Approximate Failure Localization. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2012, , 361-368.	0.3	0
148	Framework Introduction. , 2015, , 151-170.		0
149	Dynamic Survivable Routing with M-Trails. , 2015, , 187-201.		0
150	Failure Localization Via a Central Controller. , 2015, , 35-116.		0
151	On a Parity Based Group Testing Algorithm. Acta Cybernetica, 2015, 22, 423-433.	0.6	0
152	Protection Survivability Architectures. , 0, , 27-56.		0
153	Essence of Geographically Correlated Failure Events in Communication Networks. , 2022, , .		0