JÃ¡nos Tapolcai

List of Publications by Year
in descending order

153 papers	1,909 citations	448610 19 h-index	466096 32 g-index
156 all docs	156 docs citations	156 times ranked	1249 citing authors

#	ARTICLE	IF	CITATIONS
1	Guest Editorial Special Issue on Information-Centric Wireless Sensor Networking (ICWSN) for IoT. IEEE Internet of Things Journal, 2022, 9, 844-845.	5.5	4
2	Essence of Geographically Correlated Failure Events in Communication Networks. , 2022, , .		0
3	Polynomial-Time Algorithm for the Regional SRLG-disjoint Paths Problem. , 2022, , .		1
4	eFRADIR: An Enhanced FRAmework for DIsaster Resilience. IEEE Access, 2021, 9, 13125-13148.	2.6	12
5	Adaptive Protection of Scientific Backbone Networks Using Machine Learning. IEEE Transactions on Network and Service Management, 2021, 18, 1064-1076.	3.2	3
6	On Network Topology Augmentation for Global Connectivity under Regional Failures. , 2021, , .		5
7	Bloom Filter With a False Positive Free Zone. IEEE Transactions on Network and Service Management, 2021, 18, 2334-2349.	3.2	17
8	Enumerating Maximal Shared Risk Link Groups of Circular Disk Failures Hitting k Nodes. IEEE/ACM Transactions on Networking, 2021, 29, 1648-1661.	2.6	6
9	Probabilistic Shared Risk Link Groups Modeling Correlated Resource Failures Caused by Disasters. IEEE Journal on Selected Areas in Communications, 2021, 39, 2672-2687.	9.7	13
10	On separating systems with bounded set size. Discrete Applied Mathematics, 2020, 276, 172-176.	0.5	1
11	Fast Enumeration of Regional Link Failures Caused by Disasters With Limited Size. IEEE/ACM Transactions on Networking, 2020, 28, 2421-2434.	2.6	10
12	Minimum Cost Survivable Routing Algorithms for Generalized Diversity Coding. IEEE/ACM Transactions on Networking, 2020, 28, 289-300.	2.6	7
13	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.	1.6	10
14	How to Model and Enumerate Geographically Correlated Failure Events in Communication Networks. Computer Communications and Networks, 2020, , 87-115.	0.8	8
15	Fundamentals of Communication Networks Resilience to Disasters and Massive Disruptions. Computer Communications and Networks, 2020, , 1-43.	0.8	14
16	Disaster-Resilient Routing Schemes forÂRegional Failures. Computer Communications and Networks, 2020, , 483-506.	0.8	1
17	On Pending Interest Table in Named Data Networking based Edge Computing: The Case of Mobile Augmented Reality. , 2019, , .		0
18	Scalable and Efficient Multipath Routing via Redundant Trees. IEEE Journal on Selected Areas in Communications, 2019, 37, 982-996.	9.7	10

#	Article	IF	Citations
19	FRADIR-II: An Improved Framework for Disaster Resilience. , 2019, , .		7
20	Network Resiliency Against Earthquakes. , 2019, , .		13
21	Demo Abstract: Monitoring-Flow Based Network Verification and Failure Localization in SDN. , 2019, , .		0
22	Node Virtualization for IP Level Resilience. IEEE/ACM Transactions on Networking, 2018, 26, 1250-1263.	2.6	8
23	A dataset on human navigation strategies in foreign networked systems. Scientific Data, 2018, 5, 180037.	2.4	3
24	A Tractable Stochastic Model of Correlated Link Failures Caused by Disasters. , 2018, , .		25
25	Vulnerable Regions of Networks on Sphere. , 2018, , .		4
26	Beacon Deployment for Unambiguous Positioning. IEEE Internet of Things Journal, 2017, 4, 1370-1379.	5.5	42
27	Diversity Coding in Two-Connected Networks. IEEE/ACM Transactions on Networking, 2017, 25, 2308-2319.	2.6	13
28	Unambiguous switching link group failure localization in all-optical networks. Networks, 2017, 70, 327-341.	1.6	1
29	A novel m-trail allocation method for SRLG fault localization in all-optical networks. Optical Switching and Networking, 2017, 23, 179-188.	1.2	0
30	Optimal Rule Caching and Lossy Compression for Longest Prefix Matching. IEEE/ACM Transactions on Networking, 2017, 25, 864-878.	2.6	32
31	Packing strictly-shortest paths in a tree for QoS-aware routing. , 2017, , .		0
32	List of shared risk link groups representing regional failures with limited size. , 2017, , .		28
33	Shared Risk Link Group Enumeration of Node Excluding Disaster Failures. , 2016, , .		4
34	Enumerating circular disk failures covering a single node. , 2016, , .		3
35	Signaling Free Localization of Node Failures in All-Optical Networks. IEEE Transactions on Communications, 2016, 64, 2527-2538.	4.9	3
36	RECODIS: Resilient Communication Services Protecting End-user Applications from Disaster-based Failures. , 2016, , .		49

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37	A survey of strategies for communication networks to protect against large-scale natural disasters. , 2016, , .		90
38	On Optimal Topology Verification and Failure Localization for Software Defined Networks. IEEE/ACM Transactions on Networking, 2016, 24, 2899-2912.	2.6	15
39	Compressing IP Forwarding Tables: Towards Entropy Bounds and Beyond. IEEE/ACM Transactions on Networking, 2016, 24, 149-162.	2.6	17
40	SRLG fault localization in all-optical networks. , 2015, , .		0
41	Survivable routing meets diversity coding. , 2015, , .		6
42	SRLG failure localization using nested m-trails and their application to adaptive probing. Networks, 2015, 66, 347-363.	1.6	8
43	Scalable and Efficient Multipath Routing: Complexity and Algorithms. , 2015, , .		4
44	Combinatorial error detection in linear encoders. , 2015, , .		1
45	A heuristic algorithm for network-wide local unambiguous node failure localization. , 2015, , .		1
46	Lossy compression of packet classifiers. , 2015, , .		22
47	Constructions for unambiguous node failure localization in grid topologies. , 2015, , .		0
48	Instantaneous recovery of unicast connections in transport networks: Routing versus coding. Computer Networks, 2015, 82, 68-80.	3.2	20
49	Optimal False-Positive-Free Bloom Filter Design for Scalable Multicast Forwarding. IEEE/ACM Transactions on Networking, 2015, 23, 1832-1845.	2.6	26
50	Failure Restoration Approaches. , 2015, , 15-31.		2
51	SRLG fault localization using nested m-trails. Computer Networks, 2015, 85, 63-79.	3.2	2
52	Robust Network Coding in transport networks. , 2015, , .		4
53	Neighborhood Failure Localization in All-Optical Networks via Monitoring Trails. IEEE/ACM Transactions on Networking, 2015, 23, 1719-1728.	2.6	13
54	Internet Optical Infrastructure. , 2015, , .		2

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55	Framework Introduction. , 2015, , 151-170.		0
56	Dynamic Survivable Routing with M-Trails. , 2015, , 187-201.		0
57	Failure Localization Via a Central Controller. , 2015, , 35-116.		0
58	On a Parity Based Group Testing Algorithm. Acta Cybernetica, 2015, 22, 423-433.	0.5	0
59	Compressing IP Forwarding Tables: Realizing Information-Theoretical Space Bounds and Fast Lookups Simultaneously. , 2014, , .		13
60	Fault localization in all-optical ring networks. , 2014, , .		3
61	SRLG failure localization using nested M-trails. , 2014, , .		2
62	An Information-Theoretic Approach to Routing Scalability. , 2014, , .		1
63	Multi-link Failure Localization via Monitoring Bursts. Journal of Optical Communications and Networking, 2014, 6, 952.	3.3	8
64	On the design of Resilient IP Overlays. , 2014, , .		1
65	Signaling free localization of node failures in all-optical networks. , 2014, , .		5
66	Resilient flow decomposition of unicast connections with network coding. , 2014, , .		7
67	On Signaling-Free Failure Dependent Restoration in All-Optical Mesh Networks. IEEE/ACM Transactions on Networking, 2014, 22, 1067-1078.	2.6	13
68	Optimization methods for improving IP-level fast protection for local shared risk groups with Loop-Free Alternates. Telecommunication Systems, 2014, 56, 103-119.	1.6	9
69	Survey on out-of-band failure localization in all-optical mesh networks. Telecommunication Systems, 2014, 56, 169-176.	1.6	5
70	Fault localization in all-optical linear networks. , 2014, , .		3
71	Sufficient conditions for protection routing in IP networks. Optimization Letters, 2013, 7, 723-730.	0.9	19
72	Reduced information scenario for Shared Segment Protection. , 2013, , .		2

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73	On achieving all-optical failure restoration via monitoring trails. , 2013, , .		12
74	Scalable forwarding for information-centric networks. , 2013, , .		7
75	Optimizing IGP link costs for improving IP-level resilience with Loop-Free Alternates. Computer Communications, 2013, 36, 645-655.	3.1	20
76	Realization strategies of dedicated path protection: A bandwidth cost perspective. Computer Networks, 2013, 57, 1974-1990.	3.2	21
77	On identifying SRLG failures in all-optical networks. Optical Switching and Networking, 2013, 10, 77-88.	1.2	9
78	Shared risk link group failure restoration with in-band approximate failure localization. Optical Switching and Networking, 2013, 10, 163-172.	1.2	5
79	Link Fault Localization Using Bi-Directional M-Trails in All-Optical Mesh Networks. IEEE Transactions on Communications, 2013, 61, 291-300.	4.9	4
80	Physical impairments of monitoring trails in all optical transparent networks. IET Networks, 2013, 2, 196-203.	1.1	6
81	Compressing IP forwarding tables. , 2013, , .		27
82	On Achieving All-Optical and Signaling-Free Failure Restoration Under Dynamic Traffic. Journal of Optical Communications and Networking, 2013, 5, 1391.	3.3	1
83	On integrating failure localization with network survivable design. , 2013, , .		0
84	SRLG fault localization via M-burst framework. , 2013, , .		5
85	Comments on `Availability Formulations for Segment Protection'. IEEE Transactions on Communications, 2013, 61, 2591-2591.	4.9	0
86	Router virtualization for improving IP-level resilience. , 2013, , .		4
87	Compressing IP forwarding tables. Computer Communication Review, 2013, 43, 111-122.	1.5	39
88	High Availability in the Future Internet. Lecture Notes in Computer Science, 2013, , 64-76.	1.0	1
89	Compressing IP forwarding tables for fun and profit. , 2012, , .		6
90	M-Burst: A Framework of SRLG Failure Localization in All-Optical Networks. Journal of Optical Communications and Networking, 2012, 4, 628.	3.3	16

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91	Cost comparison of 1&#x002B;1 path protection schemes: A case for coding. , 2012, , .		21
92	Stateless multi-stage dissemination of information: Source routing revisited. , 2012, , .		16
93	Fast failure localization in all-optical networks with length-constrained monitoring trails. , 2012, , .		1
94	Optimal dedicated protection approach to shared risk link group failures using network coding. , 2012, , .		9
95	Network-Wide Local Unambiguous Failure Localization (NWL-UFL) via Monitoring Trails. IEEE/ACM Transactions on Networking, 2012, 20, 1762-1773.	2.6	38
96	IPTV: Technology, Practice, and Service. International Journal of Digital Multimedia Broadcasting, 2012, 2012, 1-2.	0.4	0
97	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.	0.2	0
98	Monitoring burst (M-burst) &#x2014; A novel framework of failure localization in all-optical mesh networks. , 2011, , .		7
99	A Novel Approach for Failure Localization in All-Optical Mesh Networks. IEEE/ACM Transactions on Networking, 2011, 19, 275-285.	2.6	38
100	A meta-heuristic approach for non-bifurcated dedicated protection in WDM optical networks. , 2011, , .		5
101	Optical Layer Monitoring Schemes for Fast Link Failure Localization in All-Optical Networks. IEEE Communications Surveys and Tutorials, 2011, 13, 114-125.	24.8	35
102	Optimizing IGP link costs for improving IP-level resilience. , 2011, , .		12
103	Adaptive Bloom filters for multicast addressing. , 2011, , .		4
104	Adjacent Link Failure Localization With Monitoring Trails in All-Optical Mesh Networks. IEEE/ACM Transactions on Networking, 2011, 19, 907-920.	2.6	26
105	Failure Localization for Shared Risk Link Groups in All-Optical Mesh Networks Using Monitoring Trails. Journal of Lightwave Technology, 2011, 29, 1597-1606.	2.7	24
106	Dimensioning and Site Planning of Integrated PON and Wireless Cooperative Networks for Fixed Mobile Convergence. IEEE Transactions on Vehicular Technology, 2011, 60, 4528-4538.	3.9	10
107	On batch verification with group testing for vehicular communications. Wireless Networks, 2011, 17, 1851-1865.	2.0	127
108	IP fast ReRoute: Loop Free Alternates revisited. , 2011, , .		44

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109	SRLG failure localization with monitoring trails in all-optical mesh networks. , 2011, , .		12
110	Monitoring Trail Allocation for SRLG Failure Localization. , 2011, , .		3
111	Switching/merging node placement in survivable optical networks with SSP. Computer Communications, 2010, 33, 381-389.	3.1	2
112	Spare capacity reprovisioning for high availability shared backup path protection connections. Computer Communications, 2010, 33, 603-611.	3.1	11
113	Optimal Solutions for Single Fault Localization in Two Dimensional Lattice Networks. , 2010, , .		9
114	SRLG failure localization in transparent optical mesh networks with monitoring trees and trails. , 2010, , .		2
115	Optimal Allocation of Monitoring Trails for Fast SRLG Failure Localization in All-Optical Networks. , 2010, , .		25
116	Optimal Relay Station Placement in Broadband Wireless Access Networks. IEEE Transactions on Mobile Computing, 2010, 9, 259-269.	3.9	77
117	CFP: Cooperative Fast Protection. Journal of Lightwave Technology, 2010, 28, 1102-1113.	2.7	6
118	A Novel Framework of Fast and Unambiguous Link Failure Localization via Monitoring Trails. , 2010, , .		22
119	CFP: Cooperative Fast Protection. , 2009, , .		4
120	Availability-constrained Dedicated Segment Protection in circuit switched mesh networks. , 2009, , .		5
121	Quality of resilience as a network reliability characterization tool. IEEE Network, 2009, 23, 11-19.	4.9	66
122	On Monitoring and Failure Localization in Mesh All-Optical Networks. , 2009, , .		64
123	Network Survivability: End-to-End Recovery Using Local Failure Information. Texts in Theoretical Computer Science, 2009, , 137-161.	0.5	1
124	Spare Capacity Reprovisioning for Shared Backup Path Protection in Dynamic Generalized Multi-Protocol Label Switched Networks. IEEE Transactions on Reliability, 2008, 57, 551-563.	3.5	22
125	A New Shared Segment Protection Method for Survivable Networks with Guaranteed Recovery Time. IEEE Transactions on Reliability, 2008, 57, 272-282.	3.5	38
126	Topology-focused availability analysis of basic protection schemes in optical transport networks. Journal of Optical Networking, 2008, 7, 351.	2.5	15

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127	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.	4.0	8
128	Novel availability metrics for network topologies. , 2008, , .		0
129	End-to-end service availability guarantee with Generalized Dedicated Protection. , 2008, , .		0
130	Network resilience requirements and algorithms for multicasting and broadcasting digital TV. , 2008, , .		3
131	Hierarchical routing on unstructured identifiers. , 2008, , .		0
132	Dedicated protection scheme with availability guarantee. , 2008, , .		1
133	Novel availability metrics for network topologies. , 2008, , .		0
134	Hierarchical routing on unstructured identifiers. , 2008, , .		0
135	Network resilience requirements and algorithms for multicasting and broadcasting digital TV. , 2008, , .		0
136	Spatio-Temporal Dynamic Spectrum Allocation with Interference Handling. , 2007, , .		6
137	Dynamic survivable routing for shared segment protection. Journal of Communications and Networks, 2007, 9, 198-209.	1.8	2
138	Joint Quantification of Resilience and Quality of Service. , 2006, , .		11
139	A Study on Dynamic Survivable Routing with Availability Constraint for GMPLS-Based Recovery. , 2006, , .		1
140	On Achieving Optimal Survivable Routing for Shared Protection in Survivable Next-Generation Internet. IEEE Transactions on Reliability, 2004, 53, 216-225.	3.5	79
141	Segment Shared Protection in Mesh Communications Networks With Bandwidth Guaranteed Tunnels. IEEE/ACM Transactions on Networking, 2004, 12, 1105-1118.	2.6	86
142	A deeper study on segment shared protection. , 2004, , .		5
143	Linear formulation for segment shared protection. , 2003, , .		0
144	Multi-domain issues of resilience. , 0, , .		7

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145	Quality of resilience (QoR): nobel approach to the multi-service resilience characterization. , 0, , .		16
146	Routing with partially disjoint shared path (PDSP) protection. , 0, , .		0
147	Shared Protection Based on Matrix Decomposition in Tropical Semi-Rings. , 0, , .		0
148	Class-based minimum interference routing for traffic engineering in optical networks. , 0, , .		3
149	Considerations about service differentiation using a combined QoS/QoR approach. , 0, , .		4
150	A novel shared segment protection method for guaranteed recovery time. , 0, , .		8
151	Multi-layer traffic engineering schemes in GMPLS networks. , 0, , .		3
152	A Novel Dynamic Availability-Aware Survivable Routing Architecture with Partial Restorability. , 0, , .		1
153	Protection Survivability Architectures. , 0, , 27-56.		0