

# János Tapolcai

## List of Publications by Year in descending order

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Version: 2024-02-01

153  
papers

1,909  
citations

394390

19  
h-index

414395

32  
g-index

156  
all docs

156  
docs citations

156  
times ranked

1093  
citing authors

#	ARTICLE	IF	CITATIONS
1	On batch verification with group testing for vehicular communications. <i>Wireless Networks</i> , 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. <i>IEEE/ACM Transactions on Networking</i> , 2004, 12, 1105-1118.	3.8	86
4	On Achieving Optimal Survivable Routing for Shared Protection in Survivable Next-Generation Internet. <i>IEEE Transactions on Reliability</i> , 2004, 53, 216-225.	4.6	79
5	Optimal Relay Station Placement in Broadband Wireless Access Networks. <i>IEEE Transactions on Mobile Computing</i> , 2010, 9, 259-269.	5.8	77
6	Quality of resilience as a network reliability characterization tool. <i>IEEE Network</i> , 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. <i>IEEE Internet of Things Journal</i> , 2017, 4, 1370-1379.	8.7	42
11	Compressing IP forwarding tables. <i>Computer Communication Review</i> , 2013, 43, 111-122.	1.8	39
12	A New Shared Segment Protection Method for Survivable Networks with Guaranteed Recovery Time. <i>IEEE Transactions on Reliability</i> , 2008, 57, 272-282.	4.6	38
13	A Novel Approach for Failure Localization in All-Optical Mesh Networks. <i>IEEE/ACM Transactions on Networking</i> , 2011, 19, 275-285.	3.8	38
14	Network-Wide Local Unambiguous Failure Localization (NWL-UFL) via Monitoring Trails. <i>IEEE/ACM Transactions on Networking</i> , 2012, 20, 1762-1773.	3.8	38
15	Optical Layer Monitoring Schemes for Fast Link Failure Localization in All-Optical Networks. <i>IEEE Communications Surveys and Tutorials</i> , 2011, 13, 114-125.	39.4	35
16	Optimal Rule Caching and Lossy Compression for Longest Prefix Matching. <i>IEEE/ACM Transactions on Networking</i> , 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

#	ARTICLE	IF	CITATIONS
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&#x002B;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. <i>Journal of Optical Networking</i> , 2008, 7, 351.	2.5	15
38	On Optimal Topology Verification and Failure Localization for Software Defined Networks. <i>IEEE/ACM Transactions on Networking</i> , 2016, 24, 2899-2912.	3.8	15
39	Fundamentals of Communication Networks Resilience to Disasters and Massive Disruptions. <i>Computer Communications and Networks</i> , 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. <i>IEEE/ACM Transactions on Networking</i> , 2014, 22, 1067-1078.	3.8	13
42	Neighborhood Failure Localization in All-Optical Networks via Monitoring Trails. <i>IEEE/ACM Transactions on Networking</i> , 2015, 23, 1719-1728.	3.8	13
43	Diversity Coding in Two-Connected Networks. <i>IEEE/ACM Transactions on Networking</i> , 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. <i>IEEE Journal on Selected Areas in Communications</i> , 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. <i>IEEE Access</i> , 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. <i>Computer Communications</i> , 2010, 33, 603-611.	5.1	11
52	Dimensioning and Site Planning of Integrated PON and Wireless Cooperative Networks for Fixed Mobile Convergence. <i>IEEE Transactions on Vehicular Technology</i> , 2011, 60, 4528-4538.	6.3	10
53	Scalable and Efficient Multipath Routing via Redundant Trees. <i>IEEE Journal on Selected Areas in Communications</i> , 2019, 37, 982-996.	14.0	10
54	Fast Enumeration of Regional Link Failures Caused by Disasters With Limited Size. <i>IEEE/ACM Transactions on Networking</i> , 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. <i>Networks</i> , 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. <i>Optical Switching and Networking</i> , 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. <i>Telecommunication Systems</i> , 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. <i>IEEE Transactions on Parallel and Distributed Systems</i> , 2008, 19, 311-322.	5.6	8
62	Multi-link Failure Localization via Monitoring Bursts. <i>Journal of Optical Communications and Networking</i> , 2014, 6, 952.	4.8	8
63	SRLG failure localization using nested m-trails and their application to adaptive probing. <i>Networks</i> , 2015, 66, 347-363.	2.7	8
64	Node Virtualization for IP Level Resilience. <i>IEEE/ACM Transactions on Networking</i> , 2018, 26, 1250-1263.	3.8	8
65	How to Model and Enumerate Geographically Correlated Failure Events in Communication Networks. <i>Computer Communications and Networks</i> , 2020, , 87-115.	0.8	8
66	Multi-domain issues of resilience. , 0, , .		7
67	Monitoring burst (M-burst) &#x2014; 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. <i>IEEE/ACM Transactions on Networking</i> , 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 Hitting <i>k</i> Nodes. 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 for Regional 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