Tommaso Melodia

List of Publications by Year
in descending order

131 papers	8,337 citations	147801 31 h-index	91884 69 g-index
135 all docs	135 docs citations	135 times ranked	5742 citing authors

#	Article	IF	Citations
1	Underwater acoustic sensor networks: research challenges. Ad Hoc Networks, 2005, 3, 257-279.	5.5	2,620
2	Wireless multimedia sensor networks: A survey. IEEE Wireless Communications, 2007, 14, 32-39.	9.0	495
3	Challenges for efficient communication in underwater acoustic sensor networks. ACM SIGBED Review, 2004, 1, 3-8.	1.8	473
4	Wireless Multimedia Sensor Networks: Applications and Testbeds. Proceedings of the IEEE, 2008, 96, 1588-1605.	21.3	269
5	A CDMA-based Medium Access Control for UnderWater Acoustic Sensor Networks. IEEE Transactions on Wireless Communications, 2009, 8, 1899-1909.	9.2	228
6	Cross-Layer Routing and Dynamic Spectrum Allocation in Cognitive Radio Ad Hoc Networks. IEEE Transactions on Vehicular Technology, 2010, 59, 1969-1979.	6.3	194
7	Communication and Coordination in Wireless Sensor and Actor Networks. IEEE Transactions on Mobile Computing, 2007, 6, 1116-1129.	5.8	183
8	Securing the Internet of Things in the Age of Machine Learning and Software-Defined Networking. IEEE Internet of Things Journal, 2018, 5, 4829-4842.	8.7	182
9	Three-dimensional and two-dimensional deployment analysis for underwater acoustic sensor networks. Ad Hoc Networks, 2009, 7, 778-790.	5.5	177
10	Machine learning for wireless communications in the Internet of Things: A comprehensive survey. Ad Hoc Networks, 2019, 93, 101913.	5.5	165
11	Compressed-Sensing-Enabled Video Streaming for Wireless Multimedia Sensor Networks. IEEE Transactions on Mobile Computing, 2012, 11, 1060-1072.	5.8	142
12	Quality of Information in Mobile Crowdsensing. ACM Transactions on Sensor Networks, 2017, 13, 1-43.	3.6	129
13	Open, Programmable, and Virtualized 5G Networks: State-of-the-Art and the Road Ahead. Computer Networks, 2020, 182, 107516.	5.1	128
14	Intelligence and Learning in O-RAN for Data-Driven NextG Cellular Networks. IEEE Communications Magazine, 2021, 59, 21-27.	6.1	110
15	No Radio Left Behind: Radio Fingerprinting Through Deep Learning of Physical-Layer Hardware Impairments. IEEE Transactions on Cognitive Communications and Networking, 2020, 6, 165-178.	7.9	105
16	Exposing the Fingerprint: Dissecting the Impact of the Wireless Channel on Radio Fingerprinting. , 2020, , .		104
17	Distributed Routing Algorithms for Underwater Acoustic Sensor Networks. IEEE Transactions on Wireless Communications, 2010, 9, 2934-2944.	9.2	94
18	Software-defined underwater acoustic networks: toward a high-rate real-time reconfigurable modem. , 2015, 53, 64-71.		93

#	Article	IF	Citations
19	DeepRadioID. , 2019, , .		72
20	A High-Rate Software-Defined Underwater Acoustic Modem With Real-Time Adaptation Capabilities. IEEE Access, 2018, 6, 18602-18615.	4.2	71
21	A frequency-domain entropy-based detector for robust spectrum sensing in cognitive radio networks. IEEE Communications Letters, 2010, 14, 533-535.	4.1	69
22	Challenges and implications of using ultrasonic communications in intra-body area networks. , 2012, , .		61
23	The Slice Is Served: Enforcing Radio Access Network Slicing in Virtualized 5G Systems. , 2019, , .		58
24	Distributed Routing, Relay Selection, and Spectrum Allocation in Cognitive and Cooperative Ad Hoc Networks. , 2010, , .		53
25	Platforms and testbeds for experimental evaluation of cognitive ad hoc networks. , 2010, 48, 96-104.		52
26	Experimental Evaluation of Impulsive Ultrasonic Intra-Body Communications for Implantable Biomedical Devices. IEEE Transactions on Mobile Computing, 2017, 16, 367-380.	5.8	52
27	Medium Access Control and Rate Adaptation for Ultrasonic Intrabody Sensor Networks. IEEE/ACM Transactions on Networking, 2015, 23, 1121-1134.	3.8	51
28	United Against the Enemy: Anti-Jamming Based on Cross-Layer Cooperation in Wireless Networks. IEEE Transactions on Wireless Communications, 2016, 15, 5733-5747.	9.2	51
29	Cross-layer QoS-aware communication for ultra wide band wireless multimedia sensor networks. IEEE Journal on Selected Areas in Communications, 2010, 28, 653-663.	14.0	50
30	Video Transmission Over Lossy Wireless Networks: A Cross-Layer Perspective. IEEE Journal on Selected Topics in Signal Processing, 2015, 9, 6-21.	10.8	50
31	Sonar inside your body: Prototyping ultrasonic intra-body sensor networks. , 2014, , .		43
32	Low-Complexity Distributed Radio Access Network Slicing: Algorithms and Experimental Results. IEEE/ACM Transactions on Networking, 2018, 26, 2815-2828.	3.8	41
33	Deep Learning at the Physical Layer: System Challenges and Applications to 5G and Beyond. IEEE Communications Magazine, 2020, 58, 58-64.	6.1	36
34	Design and Performance Evaluation of an Implantable Ultrasonic Networking Platform for the Internet of Medical Things. IEEE/ACM Transactions on Networking, 2020, 28, 29-42.	3.8	35
35	Opto-ultrasonic communications for wireless intra-body nanonetworks. Nano Communication Networks, 2014, 5, 3-14.	2.9	34
36	Colosseum: Large-Scale Wireless Experimentation Through Hardware-in-the-Loop Network Emulation. , 2021, , .		34

#	Article	IF	Citations
37	A Tutorial on Encoding and Wireless Transmission of Compressively Sampled Videos. IEEE Communications Surveys and Tutorials, 2013, 15, 754-767.	39.4	33
38	CellOS: Zero-touch Softwarized Open Cellular Networks. Computer Networks, 2020, 180, 107380.	5.1	33
39	DeepLoRa. , 2021, , .		32
40	Compressive Video Streaming: Design and Rate-Energy-Distortion Analysis. IEEE Transactions on Multimedia, 2013, 15, 2072-2086.	7.2	31
41	High data rate ultrasonic communications for wireless intra-body networks. , 2016, , .		31
42	ColO-RAN: Developing Machine Learning-Based xApps for Open RAN Closed-Loop Control on Programmable Experimental Platforms. IEEE Transactions on Mobile Computing, 2023, 22, 5787-5800.	5.8	31
43	Design of A Software-defined Underwater Acoustic Modem with Real-time Physical Layer Adaptation Capabilities. , 2014, , .		30
44	On the Design of Temporal Compression Strategies for Energy Harvesting Sensor Networks. IEEE Transactions on Wireless Communications, 2016, 15, 1336-1352.	9.2	30
45	LANET: Visible-light ad hoc networks. Ad Hoc Networks, 2019, 84, 107-123.	5.5	30
46	Underwater Ultrasonic Wireless Power Transfer: A Battery-Less Platform for the Internet of Underwater Things. IEEE Transactions on Mobile Computing, 2022, 21, 1861-1873.	5.8	30
47	OrchestRAN: Network Automation through Orchestrated Intelligence in the Open RAN. , 2022, , .		30
48	U-Wear. , 2015, , .		29
49	Big Data Goes Small: Real-Time Spectrum-Driven Embedded Wireless Networking Through Deep Learning in the RF Loop. , 2019, , .		29
50	SEANet G2. , 2016, , .		28
51	Sl-edge. , 2020, , .		28
52	Cognitive Code-Division Links with Blind Primary-System Identification. IEEE Transactions on Wireless Communications, 2011, 10, 3743-3753.	9.2	27
53	An Empirical Model of Multiview Video Coding Efficiency for Wireless Multimedia Sensor Networks. IEEE Transactions on Multimedia, 2013, 15, 1800-1814.	7.2	27
54	Jointly Optimal Rate Control and Relay Selection for Cooperative Wireless Video Streaming. IEEE/ACM Transactions on Networking, 2013, 21, 1173-1186.	3.8	27

#	Article	IF	Citations
55	SEANet. , 2015, , .		26
56	The SEANet Project: Toward a Programmable Internet of Underwater Things. , 2018, , .		24
57	Arena: A 64-antenna SDR-based ceiling grid testing platform for sub-6â€‰GHz 5G-and-Beyond radio spectrum research. Computer Networks, 2020, 181, 107436.	5.1	23
58	A distortion-minimizing rate controller for wireless multimedia sensor networks. Computer Communications, 2010, 33, 1380-1390.	5.1	22
59	Toward Operator-to-Waveform 5G Radio Access Network Slicing. IEEE Communications Magazine, 2020, 58, 18-23.	6.1	22
60	CDMA-Based Analog Network Coding for Underwater Acoustic Sensor Networks. IEEE Transactions on Wireless Communications, 2015, 14, 6495-6507.	9.2	21
61	Novel pMUT-Based Acoustic Duplexer for Underwater and Intrabody Communication. , 2018, , .		21
62	All-Spectrum Cognitive Networking through Joint Distributed Channelization and Routing. IEEE Transactions on Wireless Communications, 2013, 12, 5394-5405.	9.2	20
63	Receiver configuration and testbed development for underwater cognitive channelization. , 2014, , .		20
64	Modeling Underwater Acoustic Channels in Short-range Shallow Water Environments. , 2014, , .		20
65	Design and Experimental Evaluation of a Cross-Layer Deadline-Based Joint Routing and Spectrum Allocation Algorithm. IEEE Transactions on Mobile Computing, 2019, 18, 1774-1788.	5.8	20
66	Distributed Joint Power, Association and Flight Control for Massive-MIMO Self-Organizing Flying Drones. IEEE/ACM Transactions on Networking, 2020, 28, 1491-1505.	3.8	19
67	The Value of Cooperation: Minimizing User Costs in Multi-Broker Mobile Cloud Computing Networks. IEEE Transactions on Cloud Computing, 2017, 5, 780-791.	4.4	18
68	An implantable low-power ultrasonic platform for the Internet of Medical Things. , 2017, , .		18
69	DeepWiERL: Bringing Deep Reinforcement Learning to the Internet of Self-Adaptive Things. , 2020, , .		18
70	The internet underwater. , 2013, , .		17
71	A Cross-Layer Bandwidth Allocation Scheme for HTTP-Based Video Streaming in LTE Cellular Networks. IEEE Communications Letters, 2017, 21, 386-389.	4.1	17
72	Distributed Medium Access Control Strategies for MIMO Underwater Acoustic Networking. IEEE Transactions on Wireless Communications, 2011, 10, 2523-2533.	9.2	16

#	Article	IF	Citations
73	Cooperative anti-jamming for infrastructure-less wireless networks with stochastic relaying. , 2014, , .		16
74	All-Spectrum Cognitive Channelization around Narrowband and Wideband Primary Stations. , 2015, , .		16
75	Timely Delivery Versus Bandwidth Allocation for DASH-Based Video Streaming Over LTE. IEEE Communications Letters, 2016, 20, 586-589.	4.1	16
76	SURF: Subject-Adaptive Unsupervised ECG Signal Compression for Wearable Fitness Monitors. IEEE Access, 2017, 5, 19517-19535.	4.2	16
77	Crowdsourcing Access Network Spectrum Allocation Using Smartphones. , 2014, , .		15
78	WNOS. , 2018, , .		15
79	Drone Cellular Networks: Enhancing the Quality Of Experience of video streaming applications. Ad Hoc Networks, 2018, 78, 1-12.	5.5	15
80	RcUBe: Real-time reconfigurable radio framework with self-optimization capabilities. , 2015, , .		14
81	Coordinated 5G Network Slicing: How Constructive Interference Can Boost Network Throughput. IEEE/ACM Transactions on Networking, 2021, 29, 1881-1894.	3.8	14
82	Ad hoc networking with Bluetooth: key metrics and distributed protocols for scatternet formation. Ad Hoc Networks, 2004, 2, 185-202.	5.5	13
83	Mobile HTTP-based streaming using flexible LTE base station control. , 2015, , .		13
84	An Acoustically Powered Battery-less Internet of Underwater Things Platform. , 2018, , .		13
85	Streaming From the Air : Enabling Drone-Sourced Video Streaming Applications on 5G Open-RAN Architectures. IEEE Transactions on Mobile Computing, 2023, 22, 3004-3016.	5.8	13
86	Energy monitoring in residential spaces with audio sensor nodes: TinyEARS. Ad Hoc Networks, 2013, 11, 1539-1555.	5.5	12
87	Learning to detect and mitigate cross-layer attacks in wireless networks: Framework and applications. , 2017, , .		12
88	C-DMRC: Compressive Distortion-Minimizing Rate Control for Wireless Multimedia Sensor Networks. , 2010, , .		11
89	Optimizing cooperative video streaming in wireless networks. , 2011, , .		11
90	Cloud-Assisted Smart Camera Networks for Energy-Efficient 3D Video Streaming. Computer, 2014, 47, 60-66.	1.1	11

#	Article	IF	Citations
91	LiBeam: Throughput-Optimal Cooperative Beamforming for Indoor Visible Light Networks. , 2019, , .		11
92	Stochastic channel access for underwater acoustic networks with spatial and temporal interference uncertainty. , 2012, , .		10
93	A low-cost distributed networked localization and time synchronization framework for underwater acoustic testbeds. , 2014, , .		10
94	Hammer and anvil: The threat of a cross-layer jamming-aided data control attack in multihop wireless networks. , 2015, , .		10
95	Taming Cross-Layer Attacks in Wireless Networks: A Bayesian Learning Approach. IEEE Transactions on Mobile Computing, 2019, 18, 1688-1702.	5.8	10
96	DeepFIR: Channel-Robust Physical-Layer Deep Learning Through Adaptive Waveform Filtering. IEEE Transactions on Wireless Communications, 2021, 20, 8054-8066.	9.2	10
97	WNOS: Enabling Principled Software-Defined Wireless Networking. IEEE/ACM Transactions on Networking, 2021, 29, 1391-1407.	3.8	10
98	Cross-layer routing on MIMO-OFDM underwater acoustic links. , 2012, , .		9
99	A hybrid MAC protocol with channel-dependent optimized scheduling for clustered underwater acoustic sensor networks. , 2013, , .		9
100	Distributed Algorithms for Joint Channel Access and Rate Control in Ultrasonic Intra-Body Networks. IEEE/ACM Transactions on Networking, 2016, 24, 3109-3122.	3.8	9
101	Interview Motion Compensated Joint Decoding for Compressively Sampled Multiview Video Streams. IEEE Transactions on Multimedia, 2017, 19, 1117-1126.	7.2	9
102	PolymoRF. , 2020, , .		9
103	Implementation of a Distributed Joint Routing and Dynamic Spectrum Allocation Algorithm on USRP2 Radios. , 2010, , .		8
104	Performance evaluation of sender-assisted HTTP-based video streaming in wireless ad hoc networks. Ad Hoc Networks, 2015, 24, 74-84.	5.5	8
105	DRS: Distributed Deadline-Based Joint Routing and Spectrum Allocation for Tactical Ad-Hoc Networks. , 2016, , .		8
106	Jam Sessions. , 2019, , .		8
107	Joint decoding of independently encoded compressive multi-view video streams. , 2013, , .		7
108	Learning to Fly: A Distributed Deep Reinforcement Learning Framework for Software-Defined UAV Network Control. IEEE Open Journal of the Communications Society, 2021, 2, 1486-1504.	6.9	7

#	Article	IF	Citations
109	Cognitive code-division channelization with blind primary-system identification. , 2010, , .		6
110	CREATE-NEST: A Distributed Cognitive Radio Network Platform with Physical Channel Awareness. , 2013, , .		6
111	Ultrasonic intra-body networking: Interference modeling, stochastic channel access and rate control. , 2015, , .		6
112	A 700 kHz ultrasonic link for wireless powering of implantable medical devices. , 2016, , .		6
113	Impairment Shift Keying: Covert Signaling by Deep Learning of Controlled Radio Imperfections. , 2019, , .		6
114	QCell: Self-optimization of Softwarized 5G Networks through Deep Q-learning. , 2021, , .		6
115	Resilient image sensor networks in lossy channels using compressed sensing. , 2010, , .		5
116	Distributed queueing games in interference-limited wireless networks. , 2013, , .		5
117	Software-defined joint routing and waveform selection for cognitive Ad Hoc networks. , 2010, , .		4
118	Leveraging Multiview Video Coding in clustered Multimedia Sensor networks. , 2012, , .		4
119	Guest Editorial Video Distribution Over Future Internet. IEEE Journal on Selected Areas in Communications, 2016, 34, 2061-2062.	14.0	4
120	Stochastic Channel Access in Underwater Networks With Statistical Interference Modeling. IEEE Transactions on Mobile Computing, 2021, 20, 3020-3033.	5.8	4
121	HIRO-NET: Heterogeneous Intelligent Robotic Network for Internet Sharing in Disaster Scenarios. IEEE Transactions on Mobile Computing, 2022, 21, 4367-4380.	5.8	4
122	Corrections to â€œA Software-Defined Ultrasonic Networking Framework for Wearable Devicesâ€• IEEE/ACM Transactions on Networking, 2019, 27, 1289-1289.	3.8	2
123	Joint admission control and resource allocation in cognitive code-division networks. , 2012, , .		1
124	RA-CVS: Cooperating at low power to stream compressively sampled videos. , 2013, , .		1
125	Towards Robust High Speed Underwater Acoustic Communications Using Chirp Multiplexing. , 2018, , .		1
126	Compressed Sensing Based Low-Power Multi-View Video Coding and Transmission in Wireless Multi-Path Multi-Hop Networks. IEEE Transactions on Mobile Computing, 2022, 21, 3122-3137.	5.8	1

#	Article	IF	Citations
127	Spread-spectrum cognitive networking: Distributed channelization and routing. , 2011, , .		0
128	All-Spectrum Cognitive Channelization around Narrowband and Wideband Primary Stations. , 2014, , .		0
129	Demo abstract: WNOS: Software-defined generation of distributed optimal control programs for wireless networks. , 2018, , .		0
130	The Role of Machine Learning and Radio Reconfigurability in the Quest for Wireless Security. Advances in Information Security, 2019, , 191-221.	1.2	0
131	Toward Polymorphic Internet of Things Receivers Through Real-Time Waveform-Level Deep Learning. GetMobile (New York, N Y), 2022, 25, 28-33.	1.0	0