

Paulo J Portugal

List of Publications by Year in descending order

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103
papers

1,080
citations

566801

15
h-index

525886

27
g-index

104
all docs

104
docs citations

104
times ranked

862
citing authors

#	ARTICLE	IF	CITATIONS
1	Reliability and Availability Evaluation of Wireless Sensor Networks for Industrial Applications. Sensors, 2012, 12, 806-838.	2.1	159
2	An approach to implement data fusion techniques in wireless sensor networks using genetic machine learning algorithms. Information Fusion, 2014, 15, 90-101.	11.7	56
3	VTP-CSMA: A Virtual Token Passing Approach for Real-Time Communication in IEEE 802.11 Wireless Networks. IEEE Transactions on Industrial Informatics, 2007, 3, 215-224.	7.2	52
4	Availability Issues in Wireless Visual Sensor Networks. Sensors, 2014, 14, 2795-2821.	2.1	47
5	A Temperature-Dependent Battery Model for Wireless Sensor Networks. Sensors, 2017, 17, 422.	2.1	37
6	Estimating the Lifetime of Wireless Sensor Network Nodes through the Use of Embedded Analytical Battery Models. Journal of Sensor and Actuator Networks, 2017, 6, 8.	2.3	35
7	A Distributed Multi-Tier Emergency Alerting System Exploiting Sensors-Based Event Detection to Support Smart City Applications. Sensors, 2020, 20, 170.	2.1	33
8	A Survey of Emergencies Management Systems in Smart Cities. IEEE Access, 2022, 10, 61843-61872.	2.6	33
9	Research Trends in Wireless Visual Sensor Networks When Exploiting Prioritization. Sensors, 2015, 15, 1760-1784.	2.1	29
10	Enhancing the availability of wireless visual sensor networks: Selecting redundant nodes in networks with occlusion. Applied Mathematical Modelling, 2017, 42, 223-243.	2.2	26
11	Adaptive Monitoring Relevance in Camera Networks for Critical Surveillance Applications. International Journal of Distributed Sensor Networks, 2013, 9, 836721.	1.3	25
12	Simulation Analysis of the IEEE 802.11e EDCA Protocol for an Industrially-Relevant Real-Time Communication Scenario. , 2006, , .		22
13	A new MAC scheme specifically suited for real-time industrial communication based on IEEE 802.11e. Computers and Electrical Engineering, 2013, 39, 1684-1704.	3.0	21
14	Selecting redundant nodes when addressing availability in wireless visual sensor networks. , 2014, , .		20
15	Superframe Duration Allocation Schemes to Improve the Throughput of Cluster-Tree Wireless Sensor Networks. Sensors, 2017, 17, 249.	2.1	19
16	Automated Methodology for Dependability Evaluation of Wireless Visual Sensor Networks. Sensors, 2018, 18, 2629.	2.1	19
17	Handling real-time communication in infrastructured IEEE 802.11 wireless networks: The RT-WiFi approach. Journal of Communications and Networks, 2019, 21, 319-334.	1.8	18
18	A TDMA-based mechanism for real-time communication in IEEE 802.11e networks. , 2010, , .		17

#	ARTICLE	IF	CITATIONS
19	A Stochastic Petri Net Model for the Simulation Analysis of the IEEE 802.11e EDCA Communication Protocol. , 2006, , .		14
20	Limitations of the IEEE 802.11e EDCA protocol when supporting real-time communication. , 2008, , .		14
21	Assessment of the IEEE 802.11e EDCA Protocol Limitations when Dealing with Real-Time Communication. Eurasip Journal on Wireless Communications and Networking, 2010, 2010, .	1.5	14
22	Effect of frame size on energy consumption in wireless image sensor networks. , 2012, , .		12
23	Limitations of the IEEE 802.11 DCF, PCF, EDCA and HCCA to handle real-time traffic. , 2015, , .		12
24	CT-SIM: A simulation model for wide-scale cluster-tree networks based on the IEEE 802.15.4 and ZigBee standards. International Journal of Distributed Sensor Networks, 2017, 13, 155014771769847.	1.3	12
25	Availability assessment of wireless visual sensor networks for target coverage. , 2014, , .		11
26	Modelling Coverage Failures Caused by Mobile Obstacles for the Selection of Faultless Visual Nodes in Wireless Sensor Networks. IEEE Access, 2020, 8, 41537-41550.	2.6	11
27	Controlling multi-switch networks for prompt reconfiguration. , 2012, , .		10
28	On the Computing of Area Coverage by Visual Sensor Networks: Assessing Performance of Approximate and Precise Algorithms. , 2018, , .		10
29	An Advanced Battery Model for WSN Simulation in Environments With Temperature Variations. IEEE Sensors Journal, 2018, 18, 8179-8191.	2.4	10
30	A TDMA-based mechanism to enforce real-time behavior in WiFi networks. , 2008, , .		9
31	Towards a WirelessHART module for the ns-3 simulator. , 2010, , .		9
32	Link-layer retransmissions in IEEE 802.11g based industrial networks. , 2010, , .		9
33	A coordination layer to handle real-time communication in Wi-Fi networks with uncontrolled traffic sources. , 2011, , .		9
34	A routing mechanism based on the sensing relevancies of source nodes for time-critical applications in visual sensor networks. , 2012, , .		9
35	Energy-Efficient Packet Relaying in Wireless Image Sensor Networks Exploiting the Sensing Relevancies of Source Nodes and DWT Coding. Journal of Sensor and Actuator Networks, 2013, 2, 424-448.	2.3	9
36	Enhancing Redundancy in Wireless Visual Sensor Networks for Target Coverage. , 2014, , .		9

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37	A scheme for slot allocation of the FlexRay Static Segment based on response time analysis. Computer Communications, 2015, 63, 65-76.	3.1	9
38	A Measurement-Based Modeling Approach for Network-Induced Packet Delay. , 2007, , .		8
39	Genetic Machine Learning algorithms in the optimization of communication efficiency in Wireless Sensor Networks. , 2009, , .		8
40	Guaranteeing real-time message deadlines in the FlexRay static segment using a on-line scheduling approach. , 2012, , .		8
41	Reliability Evaluation of Broadcast Protocols for FlexRay. IEEE Transactions on Vehicular Technology, 2016, 65, 525-541.	3.9	8
42	GLHOVE: A framework for uniform coverage monitoring using cluster-tree wireless sensor networks. , 2013, , .		7
43	Optimal sensing redundancy for multiple perspectives of targets in wireless visual sensor networks. , 2015, , .		7
44	On the Use of Cameras for the Detection of Critical Events in Sensors-Based Emergency Alerting Systems. Journal of Sensor and Actuator Networks, 2020, 9, 46.	2.3	7
45	Real-Time Communication in 802.11 Networks: The Virtual Token Passing VTP-CSMA Approach. Local Computer Networks (LCN), Proceedings of the IEEE Conference on, 2006, , .	0.0	6
46	Survey of Real-Time Communication in CSMA-Based Networks. Network Protocols and Algorithms, 2010, 2, .	1.0	6
47	Experimental evaluation of multiple retransmission schemes in IEEE 802.15.4 wireless sensor networks. , 2012, , .		6
48	QoV: Assessing the monitoring quality in visual sensor networks. , 2012, , .		6
49	Modeling the reliability of a group membership protocol for dual-scheduled time division multiple access networks. Computer Standards and Interfaces, 2012, 34, 281-291.	3.8	6
50	Experimental validation of a battery model for low-power nodes in Wireless Sensor Networks. , 2016, , .		6
51	A Comprehensive Dependability Model for QoM-Aware Industrial WSN When Performing Visual Area Coverage in Occluded Scenarios. Sensors, 2020, 20, 6542.	2.1	6
52	A forcing collision resolution approach able to prioritize traffic in CSMA-based networks. Computer Communications, 2010, 33, 54-64.	3.1	5
53	Dependability evaluation of WirelessHART best practices. , 2012, , .		5
54	Skip game: an autonomic approach for QoS and energy management in IEEE 802.15.4 WSN. , 2015, , .		5

#	ARTICLE	IF	CITATIONS
55	FoV-Based Quality Assessment and Optimization for Area Coverage in Wireless Visual Sensor Networks. IEEE Access, 2020, 8, 109568-109580.	2.6	5
56	Automatic Assignment of Emergency Vehicles in Response to Sensors-based Generated Alarms in Smart City Scenarios. , 2020, , .		5
57	Exploring alternatives to scale FTT-SE to large networks. , 2011, , .		4
58	Assessment of the Interference caused by uncontrolled traffic sources upon real-time communication in IEEE 802.11-based mesh networks. , 2012, , .		4
59	Towards a reliability analysis of the design space for the communication subsystem of FT4FTT. , 2014, , .		4
60	Relevance-based balanced sink mobility in wireless visual sensor networks. , 2014, , .		4
61	A sleep-scheduling scheme for enhancing QoS and network coverage in IEEE 802.15.4 WSN. , 2015, , .		4
62	Alternative Path Communication in Wide-Scale Cluster-Tree Wireless Sensor Networks Using Inactive Periods. Sensors, 2017, 17, 1049.	2.1	4
63	Wireless visual sensor networks redeployment based on dependability optimization. , 2019, , .		4
64	A MODEL BASED ON A STOCHASTIC PETRI NET APPROACH FOR DEPENDABILITY EVALUATION OF CONTROLLER AREA NETWORKS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 150-157.	0.4	3
65	Technical and economical assessment of the use of wireless gateways in industrial networks. , 2009, , .		3
66	Comparing RT-WiFi and HCCA approaches to handle real-time traffic in open communication environments. , 2012, , .		3
67	Real-Time Industrial Communication over IEEE802.11e Wireless Local Area Networks. IEEE Latin America Transactions, 2012, 10, 1844-1849.	1.2	3
68	Evaluating the impact of uncontrolled traffic sources upon real-time communication in IEEE 802.11s mesh networks. , 2014, , .		3
69	Real-time communication in IEEE 802.11s mesh networks: simulation assessment considering the interference of non-real-time traffic sources. Eurasip Journal on Wireless Communications and Networking, 2014, 2014, .	1.5	3
70	A framework to support dependability evaluation of WSNs from AADL models. , 2015, , .		3
71	Multiple Mobile Sinks in Event-based Wireless Sensor Networks Exploiting Traffic Conditions in Smart City Applications. , 2018, , .		3
72	Emerging Technologies for Industrial Wireless Sensor Networks. , 0, , 343-359.		3

#	ARTICLE	IF	CITATIONS
73	Engineering and analyzing multi-switch networks with single point of control. , 2011, , .		3
74	Polynomial Approximation of the Battery Discharge Function in IEEE 802.15.4 Nodes: Case Study of MicaZ. Advances in Intelligent Systems and Computing, 2013, , 901-910.	0.5	3
75	Experimental analysis of outage times for PROFIBUS network. , 2005, , .		2
76	A 2-tier architecture to support real-time communication in CSMA-based networks. , 2008, , .		2
77	The impact of control delay upon the performance of a DC-motor control: Comparison of a centralized vs. a network-based approach. , 2009, , .		2
78	Preliminary results on the assessment of WirelessHART networks in transient fault scenarios. , 2011, , .		2
79	A semi-reliable energy-efficient retransmission mechanism based on the sensing relevancies of source nodes for wireless image sensor networks. , 2012, , .		2
80	A dynamic communication approach for data fusion in IEEE 802.15.4 Wireless Sensor Networks. , 2012, , .		2
81	Relevance-based partial reliability in wireless sensor networks. Eurasip Journal on Wireless Communications and Networking, 2014, 2014, .	1.5	2
82	AdapTA: Adaptive timeslot allocation scheme for IEEE 802.15.4e LLDN mode. , 2016, , .		2
83	An approach based on stochastic Petri nets for dependability evaluation of profibus-DP networks. , 0, , .		1
84	A proposal of real-time publish-subscribe scheme compatible with 802.11e wireless networks. , 2009, , .		1
85	Expansion of the available use classes in IEEE 802.15.4 networks for usage in the industrial environment. , 2012, , .		1
86	Energy-efficient packet relaying based on the sensing relevancies of source nodes in visual sensor networks. , 2012, , .		1
87	Delay-aware DWT-based image transmission in wireless visual sensor networks. , 2013, , .		1
88	Partial energy-efficient hop-by-hop retransmission in wireless sensor networks. , 2013, , .		1
89	An opportunistic approach to deal with real-time mesh communication in wireless sensor networks. , 2014, , .		1
90	Quality of service provision assessment for DDBP approach in IEEE 802.15.4 networks. , 2014, , .		1

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91	An allocation scheme for IEEE 802.15.4-ZigBee cluster-tree networks. , 2016, , .		1
92	A Hybrid Beacon Scheduling Scheme to Allow the Periodic Reconfiguration of Large-scale Cluster-tree WSNs. , 2018, , .		1
93	A Mathematical Model to Evaluate Visual Sensing Coverage of Emergency Signs on Moving Vehicles. , 2021, , .		1
94	A Model Based on a Stochastic Petri Net Approach for Dependability Evaluation of Controller Area Networks. , 2006, , 150-157.		1
95	PERFORMABILITY EVALUATION OF PROFIBUS-DP MULTI-MASTER NETWORKS IN INDUSTRIAL RELEVANT SCENARIOS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 95-102.	0.4	0
96	A Communication Approach for Parallel Data Fusion in IEEE 802.15.4 Wireless Sensor Networks. , 2011, , .		0
97	An admission control mechanism to handle real-time traffic in IEEE 802.11 networks in open communication environments. , 2012, , .		0
98	A framework for dependability evaluation of industrial processes. , 2013, , .		0
99	Recovery Effect in Low-Power Nodes of Wireless Sensor Networks. Communications in Computer and Information Science, 2017, , 45-62.	0.4	0
100	A Reliability Evaluation of a Group Membership Protocol. Lecture Notes in Computer Science, 2007, , 397-410.	1.0	0
101	Profisafe. The Electrical Engineering Handbook, 2011, , 1-15.	0.2	0
102	Integration of Manufacturing Applications: Overcoming Heterogeneity to Preserve Investment. IFIP Advances in Information and Communication Technology, 1996, , 191-200.	0.5	0
103	Real-Time Communication Support in IEEE 802.11-Based Wireless Mesh Networks. , 2015, , 7247-7259.		0