Simon A Dobson

List of Publications by Year
in descending order

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119 papers	3,452 citations	257450 24 h-index	155660 55 g-index
122 all docs	122 docs citations	122 times ranked	2929 citing authors

#	Article	IF	Citations
1	A survey of autonomic communications. ACM Transactions on Autonomous and Adaptive Systems, 2006, 1, 223-259.	0.8	521
2	Context is key. Communications of the ACM, 2005, 48, 49-53.	4.5	419
3	Situation identification techniques in pervasive computing: A review. Pervasive and Mobile Computing, 2012, 8, 36-66.	3.3	359
4	Ontology-based models in pervasive computing systems. Knowledge Engineering Review, 2007, 22, 315-347.	2.6	155
5	Energy-Efficient Sensing in Wireless Sensor Networks Using Compressed Sensing. Sensors, 2014, 14, 2822-2859.	3.8	150
6	Compression in wireless sensor networks. ACM Transactions on Sensor Networks, 2013, 10, 1-44.	3.6	140
7	Fulfilling the Vision of Autonomic Computing. Computer, 2010, 43, 35-41.	1.1	96
8	High-Accuracy Reference-Free Ultrasonic Location Estimation. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 1561-1570.	4.7	93
9	Developing pervasive multi-agent systems with nature-inspired coordination. Pervasive and Mobile Computing, 2015, 17, 236-252.	3.3	75
10	Robust High-Accuracy Ultrasonic Range Measurement System. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 3334-3341.	4.7	70
11	Multiplex networks in metropolitan areas: generic features and local effects. Journal of the Royal Society Interface, 2015, 12, 20150651.	3.4	70
12	Activity recognition using temporal evidence theory. Journal of Ambient Intelligence and Smart Environments, 2010, 2, 253-269.	1.4	68
13	KCAR: A knowledge-driven approach for concurrent activity recognition. Pervasive and Mobile Computing, 2015, 19, 47-70.	3.3	67
14	Social sensors and pervasive services: Approaches and perspectives. , 2011, , .		62
15	A top-level ontology for smart environments. Pervasive and Mobile Computing, 2011, 7, 359-378.	3.3	59
16	Semantic web technologies in pervasive computing: A survey and research roadmap. Pervasive and Mobile Computing, 2015, 23, 1-25.	3.3	53
17	Self-aware Pervasive Service Ecosystems. Procedia Computer Science, 2011, 7, 197-199.	2.0	52
18	Critical tipping point distinguishing two types of transitions in modular network structures. Physical Review E, 2015, 92, 062805.	2.1	43

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19	USMART. ACM Transactions on Interactive Intelligent Systems, 2015, 4, 1-27.	3.7	41
20	Failure detection in wireless sensor networks. ACM Transactions on Sensor Networks, 2014, 10, 1-29.	3.6	34
21	LOC8: A Location Model and Extensible Framework for Programming with Location. IEEE Pervasive Computing, 2010, 9, 28-37.	1.3	33
22	Detecting abnormal events on binary sensors in smart home environments. Pervasive and Mobile Computing, 2016, 33, 32-49.	3.3	33
23	Ontonym. , 2009, , .		32
24	Cross-Layer Architectures for Autonomic Communications. Journal of Network and Systems Management, 2007, 15, 13-27.	4.9	28
25	A relation based measure of semantic similarity for Gene Ontology annotations. BMC Bioinformatics, 2008, 9, 468.	2.6	27
26	Self-Organization and Resilience for Networked Systems: Design Principles and Open Research Issues. Proceedings of the IEEE, 2019, 107, 819-834.	21.3	26
27	Comparing Service-Oriented and Distributed Object Architectures. Lecture Notes in Computer Science, 2005, , 631-645.	1.3	23
28	Resolving uncertainty in context integration and abstraction. , 2008, , .		22
29	Exploring semantics in activity recognition using context lattices. Journal of Ambient Intelligence and Smart Environments, 2010, 2, 389-407.	1.4	21
30	A survey of selfâ€healing systems frameworks. Software - Practice and Experience, 2015, 45, 1375-1398.	3.6	21
31	A Unified Semantics Space Model. Lecture Notes in Computer Science, 2007, , 103-120.	1.3	19
32	A Context Quality Model to Support Transparent Reasoning with Uncertain Context. Lecture Notes in Computer Science, 2009, , 65-75.	1.3	18
33	More Principled Design of Pervasive Computing Systems. Lecture Notes in Computer Science, 2005, , 292-305.	1.3	17
34	Representing and Manipulating Situation Hierarchies using Situation Lattices. Revue D'Intelligence Artificielle, 2008, 22, 647-667.	0.6	17
35	The Use of Context-Aware Policies and Ontologies to Facilitate Business-Aware Network Management. Journal of Network and Systems Management, 2009, 17, 255-284.	4.9	16
36	Fault detection for binary sensors in smart home environments. , 2015, , .		16

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37	Lifelong Learning in Sensor-Based Human Activity Recognition. IEEE Pervasive Computing, 2019, 18, 49-58.	1.3	16
38	Using Dempster-Shafer Theory of Evidence for Situation Inference. Lecture Notes in Computer Science, 2009, , 149-162.	1.3	16
39	Sapphire: Generating Java Runtime Artefacts from OWL Ontologies. Lecture Notes in Business Information Processing, 2011, , 425-436.	1.0	16
40	Leveraging the subtleties of location. , 2005, , .		15
41	Using situation lattices in sensor analysis. , 2009, , .		15
42	Formal verification of a pervasive messaging system. Formal Aspects of Computing, 2014, 26, 677-694.	1.8	15
43	A Cross-Layer Architecture for Autonomic Communications. Lecture Notes in Computer Science, 2006, , 25-35.	1.3	15
44	Random graphs with arbitrary clustering and their applications. Physical Review E, 2021, 103, 012309.	2.1	14
45	Combining self-organisation, context-awareness and semantic reasoning. , 2013, , .		12
46	Discovery and Recognition of Emerging Human Activities Using a Hierarchical Mixture of Directional Statistical Models. IEEE Transactions on Knowledge and Data Engineering, 2020, 32, 1304-1316.	5.7	12
47	Unifying Sensor Fault Detection with Energy Conservation. Lecture Notes in Computer Science, 2014, , 176-181.	1.3	11
48	A Reference Architecture and Model for Sensor Data Warehousing. IEEE Sensors Journal, 2018, 18, 7659-7670.	4.7	10
49	A first approach to the closed-form specification and analysis of an autonomic control system. , 2007, , .		9
50	Modelling Periodic Data Dissemination in Wireless Sensor Networks. , 2009, , .		9
51	A spatially heterogeneous network-based metapopulation software model applied to the simulation of a pulmonary tuberculosis infection. Applied Network Science, 2018, 3, 33.	1.5	9
52	Toward a Model for Shared Data Abstraction with Performance. Journal of Parallel and Distributed Computing, 1998, 49, 156-167.	4.1	8
53	Adaptive middleware for autonomic systems. Annales Des Telecommunications/Annals of Telecommunications, 2006, 61, 1099-1118.	2.5	8
54	Cross-Layer Self Routing: A Self-Managed Routing Approach for MANETs. , 2008, , .		8

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55	Partial Coverage in Homological Sensor Networks. , 2009, , .		8
56	Situvis: A sensor data analysis and abstraction tool for pervasive computing systems. Pervasive and Mobile Computing, 2010, 6, 575-589.	3.3	8
57	Discovery and recognition of unknown activities. , 2016, , .		8
58	On the Social Implications of Collective Adaptive Systems. IEEE Technology and Society Magazine, 2020, 39, 36-46.	0.8	8
59	Rapid User-Centred Evaluation for Context-Aware Systems. , 2006, , 220-233.		8
60	Augmented materials: spatially embodied sensor networks. International Journal of Communication Networks and Distributed Systems, 2013, 11, 453.	0.4	7
61	Two-pathogen model with competition on clustered networks. Physical Review E, 2021, 103, 062308.	2.1	7
62	Percolation in random graphs with higher-order clustering. Physical Review E, 2021, 103, 012313.	2.1	7
63	Towards a Reliable, Wide-Area Infrastructure for Context-Based Self-management of Communications. Lecture Notes in Computer Science, 2006, , 115-128.	1.3	7
64	XLearn. ACM Transactions on Intelligent Systems and Technology, 2020, 11, 1-28.	4.5	7
65	Putting Meaning into the Network: Some Semantic Issues for the Design of Autonomic Communications Systems. Lecture Notes in Computer Science, 2005, , 207-216.	1.3	6
66	Decentralized and optimal control of shared resource pools. ACM Transactions on Autonomous and Adaptive Systems, 2012, 7, 1-31.	0.8	6
67	Situvis: A Visual Tool for Modeling a Userâ€™s Behaviour Patterns in a Pervasive Environment. Lecture Notes in Computer Science, 2009, , 327-341.	1.3	6
68	Enhancement of Self-organisation in Wireless Networking through a Cross-Layer Approach. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 144-159.	0.3	6
69	Demonstrating the feasibility of an Autonomic Communication- Targeted Cross-Layer Architecture. , 2006, , .		5
70	Facilitating a Well-Founded Approach to Autonomic Systems. , 2008, , .		5
71	Adaptive Management of Shared Resource Pools with Decentralized Optimization and Epidemics. , 2010, , .		5
72	Self-Organising Semantic Resource Discovery for Pervasive Systems. , 2012, , .		5

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73	Self-managing and self-organising mobile computing applications. , 2014, , .		5
74	Modelling the effects of environmental heterogeneity within the lung on the tuberculosis life-cycle. Journal of Theoretical Biology, 2020, 506, 110381.	1.7	5
75	Exact formula for bond percolation on cliques. Physical Review E, 2021, 104, 024304.	2.1	5
76	On Using Temporal Features to Create More Accurate Human-Activity Classifiers. Lecture Notes in Computer Science, 2010, , 273-282.	1.3	5
77	Scatterbox: Context-Aware Message Management. Revue D'Intelligence Artificielle, 2008, 22, 549-568.	0.6	5
78	Construct: An Open Source Pervasive Systems Platform. , 2007, , .		4
79	An ASSL Approach to Handling Uncertainty in Self-adaptive Systems. , 2011, , .		4
80	A reconfigurable component model with semantic type system for dynamic WSN applications. Journal of Internet Services and Applications, 2012, 3, 277-290.	2.1	4
81	Data Collection with In-network Fault Detection Based on Spatial Correlation. , 2014, , .		4
82	Representation learning for minority andÂsubtle activities in a smart homeÂenvironment. Journal of Ambient Intelligence and Smart Environments, 2019, 11, 495-513.	1.4	4
83	An Overview of Pervasive Computing Systems. Microsystems, 2008, , 3-17.	0.3	4
84	Cross-layer Optimisations for Autonomic Networks. , 2007, , 127-148.		4
85	A Systems Architecture for Sensor Networks Based On Hardware/Software Co-design. Lecture Notes in Computer Science, 2005, , 115-126.	1.3	3
86	Context Awareness through Cross-Layer Network Architecture. , 2007, , .		3
87	Achieving an acceptable design model for autonomic systems. , 2007, , .		3
88	Multi criteria adaptation mechanisms in homological sensor networks. , 2008, , .		3
89	Human-behaviour study with situation lattices. , 2009, , .		3
90	Decentralized Utility Maximization for Adaptive Management of Shared Resource Pools. , 2009, , .		3

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91	From Physical Models to Well-Founded Control. , 2009, , .		3
92	Towards Situated Awareness in Urban Networks: A Bio-Inspired Approach. , 2012, , .		3
93	A Bio-chemical Approach to Awareness in Pervasive Systems. , 2013, , .		3
94	Towards Data-centric Control of Sensor Networks through Bayesian Dynamic Linear Modelling. , 2015, , .		3
95	Spatial awareness in pervasive ecosystems. Knowledge Engineering Review, 2016, 31, 343-366.	2.6	3
96	Making Sense of the World: Framing Models for Trustworthy Sensor-Driven Systems. Computers, 2018, 7, 62.	3.3	3
97	Cooperative coinfection dynamics on clustered networks. Physical Review E, 2021, 103, 042307.	2.1	3
98	Self-management of Routing on Human Proximity Networks. Lecture Notes in Computer Science, 2009, , 1-12.	1.3	3
99	A Co-designed Hardware/Software Architecture for Augmented Materials. Lecture Notes in Computer Science, 2005, , 43-53.	1.3	3
100	A Secure Lightweight Architecture for Wireless Sensor Networks. , 2008, , .		2
101	Perceiving and interpreting smart home datasets with $$mathcal{PI}$$. Journal of Ambient Intelligence and Humanized Computing, 2013, 4, 717-729.	4.9	2
102	Symbiotic and antagonistic disease dynamics on networks using bond percolation. Physical Review E, 2021, 104, 024303.	2.1	2
103	Augmenting Materials to Build Cooperating Objects. Microsystems, 2008, , 19-46.	0.3	2
104	PI: Perceiver and Interpreter of Smart Home Datasets. , 2011, , .		2
105	Whole-System Programming of Adaptive Ambient Intelligence. Lecture Notes in Computer Science, 2007, , 73-81.	1.3	2
106	Degree correlations in graphs with clique clustering. Physical Review E, 2022, 105, 044314.	2.1	2
107	As strong as possible mobility (poster session). , 2000, , .		1
108	Autonomic Pervasive and Context-Aware Systems. Journal of Network and Systems Management, 2007, 15, 1-3.	4.9	1

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109	An adaptive systems perspective on network calculus, with applications to autonomic control. International Journal of Autonomous and Adaptive Communications Systems, 2008, 1, 332.	0.3	1
110	Mission-oriented middleware for sensor-driven scientific systems. Journal of Internet Services and Applications, 2012, 3, 133-139.	2.1	1
111	Using temporal correlation and time series to detect missing activity-driven sensor events. , 2015, , .		1
112	Open badges: A best-practice framework. , 2016, , .		1
113	Delay tolerant networks and spatially detailed human mobility. , 2009, , .		0
114	Ubiquitous autonomic management. , 2009, , .		0
115	Distributed Self-Monitoring Sensor Networks Via Markov Switching Dynamic Linear Models. , 2019, , .		0
116	Sensor-Based Human Activity Mining Using Dirichlet Process Mixtures of Directional Statistical Models. , 2019, , .		0
117	Application development using modeling and dynamical systems analysis. , 2009, , .		0
118	Co-Design for Context Awareness in Pervasive Systems. Microsystems, 2008, , 297-307.	0.3	0
119	epyc: Computational experiment management in Python. Journal of Open Source Software, 2022, 7, 3764.	4.6	0