

Alcherio Martinoli

List of Publications by Year in descending order

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74
papers

2,358
citations

361413

20
h-index

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77
all docs

77
docs citations

77
times ranked

1377
citing authors

#	ARTICLE	IF	CITATIONS
1	A modular functional framework for the design and evaluation of multi-robot navigation. <i>Robotics and Autonomous Systems</i> , 2021, 144, 103849.	5.1	2
2	Lightweight physics-based models for the control of fluid-mediated self-assembly of robotic modules. <i>Robotics and Autonomous Systems</i> , 2019, 121, 103241.	5.1	1
3	Automatic calibration of ultra wide band tracking systems using a mobile robot: A person localization case-study. , 2017, , .		2
4	Fluid-Mediated Stochastic Self-Assembly at Centimetric and Sub-Millimetric Scales: Design, Modeling, and Control. <i>Micromachines</i> , 2016, 7, 138.	2.9	13
5	Noise-resistant particle swarm optimization for the learning of robust obstacle avoidance controllers using a depth camera. , 2016, , .		1
6	The Khepera IV Mobile Robot: Performance Evaluation, Sensory Data and Software Toolbox. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 767-781.	0.6	26
7	Distributed Learning of Cooperative Robotic Behaviors Using Particle Swarm Optimization. <i>Springer Tracts in Advanced Robotics</i> , 2016, , 591-604.	0.4	5
8	A Graph-Based Formation Algorithm for Odor Plume Tracing. <i>Springer Tracts in Advanced Robotics</i> , 2016, , 255-269.	0.4	8
9	Lidar-Based Relative Position Estimation and Tracking for Multi-robot Systems. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 3-16.	0.6	18
10	Distributed graph-based convoy control for networked intelligent vehicles. , 2015, , .		32
11	Distributed Particle Swarm Optimization - particle allocation and neighborhood topologies for the learning of cooperative robotic behaviors. , 2015, , .		1
12	Distributed Particle Swarm Optimization using Optimal Computing Budget Allocation for multi-robot learning. , 2015, , .		7
13	SwarmViz: An open-source visualization tool for Particle Swarm Optimization. , 2015, , .		9
14	A distributed noise-resistant Particle Swarm Optimization algorithm for high-dimensional multi-robot learning. , 2015, , .		10
15	A distributed formation-based odor source localization algorithm - design, implementation, and wind tunnel evaluation. , 2015, , .		25
16	The role of environmental and controller complexity in the distributed optimization of multi-robot obstacle avoidance. , 2014, , .		3
17	Formalization, Implementation, and Modeling of Institutional Controllers for Distributed Robotic Systems. <i>Artificial Life</i> , 2014, 20, 127-141.	1.3	7
18	Analysis of fitness noise in particle swarm optimization: From robotic learning to benchmark functions. , 2014, , .		9

#	ARTICLE	IF	CITATIONS
19	Distributed Particle Swarm Optimization for limited-time adaptation with real robots. <i>Robotica</i> , 2014, 32, 193-208.	1.9	21
20	Accurate indoor localization with ultra-wideband using spatial models and collaboration. <i>International Journal of Robotics Research</i> , 2014, 33, 547-568.	8.5	42
21	Top-Down vs. Bottom-Up Model-Based Methodologies for Distributed Control: A Comparative Experimental Study. <i>Springer Tracts in Advanced Robotics</i> , 2014, , 615-629.	0.4	9
22	Distributed Particle Swarm Optimization for Limited Time Adaptation in Autonomous Robots. <i>Springer Tracts in Advanced Robotics</i> , 2014, , 383-396.	0.4	5
23	A comparison of PSO and Reinforcement Learning for multi-robot obstacle avoidance. , 2013, , .		17
24	Low-Cost Multi-robot Localization. <i>Lecture Notes in Electrical Engineering</i> , 2013, , 15-33.	0.4	2
25	An experimental study in wireless connectivity maintenance using up to 40 robots coordinated by an institutional robotics approach. , 2013, , .		4
26	Accurate Localization with Ultra-Wideband: Tessellated Spatial Models and Collaboration. <i>Springer Tracts in Advanced Robotics</i> , 2013, , 321-335.	0.4	2
27	A Plume Tracking Algorithm Based on Crosswind Formations. <i>Springer Tracts in Advanced Robotics</i> , 2013, , 91-102.	0.4	13
28	Low-cost collaborative localization for large-scale multi-robot systems. , 2012, , .		44
29	Online model estimation of ultra-wideband TDOA measurements for mobile robot localization. , 2012, , .		32
30	Modeling and designing self-organized aggregation in a swarm of miniature robots. <i>International Journal of Robotics Research</i> , 2011, 30, 615-626.	8.5	56
31	Accommodation of NLOS for ultra-wideband TDOA localization in single- and multi-robot systems. , 2011, , .		33
32	Modeling Self-Assembly Across Scales: The Unifying Perspective of Smart Minimal Particles. <i>Micromachines</i> , 2011, 2, 82-115.	2.9	14
33	Two-phase online calibration for infrared-based inter-robot positioning modules. , 2011, , .		6
34	Bayesian rendezvous for distributed robotic systems. , 2011, , .		4
35	A reciprocal sampling algorithm for lightweight distributed multi-robot localization. , 2011, , .		18
36	A trajectory-based calibration method for stochastic motion models. , 2011, , .		10

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37	Multi-level spatial modeling for stochastic distributed robotic systems. International Journal of Robotics Research, 2011, 30, 574-589.	8.5	31
38	Indoor navigation research with the Khepera III mobile robot: An experimental baseline with a case-study on ultra-wideband positioning. , 2010, , .		34
39	Specialization as an optimal strategy under varying external conditions. , 2009, , .		11
40	Multirobot inspection of industrial machinery. IEEE Robotics and Automation Magazine, 2009, 16, 103-112.	2.0	34
41	Collaborative coverage using a swarm of networked miniature robots. Robotics and Autonomous Systems, 2009, 57, 517-525.	5.1	49
42	Distributed scalable multi-robot learning using particle swarm optimization. Swarm Intelligence, 2009, 3, 203-222.	2.2	31
43	A Fast Onboard Relative Positioning Module for Multirobot Systems. IEEE/ASME Transactions on Mechatronics, 2009, 14, 151-162.	5.8	81
44	Tracking Odor Plumes in a Laminar Wind Field with Bio-inspired Algorithms. Springer Tracts in Advanced Robotics, 2009, , 473-482.	0.4	46
45	Understanding the Potential Impact of Multiple Robots in Odor Source Localization. , 2009, , 239-250.		9
46	Modelling a wireless connected swarm of mobile robots. Swarm Intelligence, 2008, 2, 241-266.	2.2	57
47	Distributed boundary coverage with a team of networked miniature robots using a robust market-based algorithm. Annals of Mathematics and Artificial Intelligence, 2008, 52, 307-333.	1.3	23
48	Simulation Experiments with Bio-inspired Algorithms for Odor Source Localization in Laminar Wind Flow. , 2008, , .		18
49	Assembly of configurations in a networked robotic system: A case study on a reconfigurable interactive table lamp. , 2008, , .		5
50	Exploration of an incremental suite of microscopic models for acoustic event monitoring using a robotic sensor network. , 2008, , .		6
51	SwisTrack - A Flexible Open Source Tracking Software for Multi-Agent Systems. , 2008, , .		108
52	A comparison of casting and spiraling algorithms for odor source localization in laminar flow. , 2008, , .		40
53	Distributed Adaptation in Multi-robot Search Using Particle Swarm Optimization. Lecture Notes in Computer Science, 2008, , 393-402.	1.3	24
54	Comparing Coordination Schemes for Miniature Robotic Swarms: A Case Study in Boundary Coverage of Regular Structures. , 2008, , 471-480.		10

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55	Parallel learning in heterogeneous multi-robot swarms. , 2007, , .		15
56	Robust Distributed Coverage using a Swarm of Miniature Robots. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	24
57	Inspiring and Modeling Multi-Robot Search with Particle Swarm Optimization. , 2007, , .		166
58	Modeling and Optimization of a Swarm-Intelligent Inspection System. , 2007, , 369-378.		12
59	TOWARDS OPTIMAL CONTROL OF SELF-ORGANIZED ROBOTIC INSPECTION SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 304-309.	0.4	4
60	Multi-robot learning with particle swarm optimization. , 2006, , .		75
61	System Identification of Self-Organizing Robotic Swarms. , 2006, , 31-40.		17
62	Communication in a Swarm of Miniature Robots: The e-Puck as an Educational Tool for Swarm Robotics. , 2006, , 103-115.		51
63	Evolving Neural Controllers for Collective Robotic Inspection. , 2006, , 717-729.		4
64	A Review of Probabilistic Macroscopic Models for Swarm Robotic Systems. Lecture Notes in Computer Science, 2005, , 143-152.	1.3	86
65	A scalable, onâ€board localisation and communication system for indoor multiâ€robot experiments. Sensor Review, 2004, 24, 167-180.	1.8	24
66	Learning and Measuring Specialization in Collaborative Swarm Systems. Adaptive Behavior, 2004, 12, 199-212.	1.9	45
67	Macroscopic Modeling of Aggregation Experiments using Embodied Agents in Teams of Constant and Time-Varying Sizes. Autonomous Robots, 2004, 17, 163-192.	4.8	50
68	Modeling Swarm Robotic Systems. , 2003, , 297-306.		23
69	Swarm robotic odor localization: Off-line optimization and validation with real robots. Robotica, 2003, 21, 427-441.	1.9	101
70	Emergent Specialization in Swarm Systems. Lecture Notes in Computer Science, 2002, , 261-266.	1.3	16
71	Title is missing!. Autonomous Robots, 2001, 11, 149-171.	4.8	143
72	A Macroscopic Analytical Model of Collaboration in Distributed Robotic Systems. Artificial Life, 2001, 7, 375-393.	1.3	113

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73	Comparing Distributed Exploration Strategies with Simulated and Real Autonomous Robots. , 2000, , 261-270.		21
74	A Multi-robot System for Adaptive Exploration of a Fast-changing Environment: Probabilistic Modeling and Experimental Study. Connection Science, 1999, 11, 359-379.	3.0	14