Carlos Sagüés

List of Publications by Year
in descending order

117 papers	2,063 citations	218677 26 h-index	302126 39 g-index
121 all docs	121 docs citations	121 times ranked	1698 citing authors

#	ARTICLE	IF	CITATIONS
1	Vision-Based Distributed Formation Control Without an External Positioning System. IEEE Transactions on Robotics, 2016, 32, 339-351.	10.3	114
2	Distributed Consensus on Robot Networks for Dynamically Merging Feature-Based Maps. IEEE Transactions on Robotics, 2012, 28, 840-854.	10.3	97
3	Homography-Based Control Scheme for Mobile Robots With Nonholonomic and Field-of-View Constraints. IEEE Transactions on Systems, Man, and Cybernetics, 2010, 40, 1115-1127.	5.0	88
4	A Sliding-Mode-Control Law for Mobile Robots Based on Epipolar Visual Servoing From Three Views. IEEE Transactions on Robotics, 2011, 27, 175-183.	10.3	85
5	Human-Computer Interaction Based on Hand Gestures Using RGB-D Sensors. Sensors, 2013, 13, 11842-11860.	3.8	71
6	Robust discrete time dynamic average consensus. Automatica, 2014, 50, 3131-3138.	5.0	55
7	Formation Control of Mobile Robots Using Multiple Aerial Cameras. IEEE Transactions on Robotics, 2015, 31, 1064-1071.	10.3	47
8	Visual correction for mobile robot homing. Robotics and Autonomous Systems, 2005, 50, 41-49.	5.1	44
9	Distributed algebraic connectivity estimation for undirected graphs with upper and lower bounds. Automatica, 2014, 50, 3253-3259.	5.0	44
10	Distributed Coverage Estimation and Control for Multirobot Persistent Tasks. IEEE Transactions on Robotics, 2016, 32, 1444-1460.	10.3	44
11	Visual control through the trifocal tensor for nonholonomic robots. Robotics and Autonomous Systems, 2010, 58, 216-226.	5.1	42
12	A New Model of Electromechanical Relays for Predicting the Motion and Electromagnetic Dynamics. IEEE Transactions on Industry Applications, 2016, 52, 2545-2553.	4.9	40
13	Distributed formation control without a global reference frame. , 2014, , .		38
14	Coordinate-free formation stabilization based on relative position measurements. Automatica, 2015, 57, 11-20.	5.0	38
15	Chebyshev Polynomials in Distributed Consensus Applications. IEEE Transactions on Signal Processing, 2013, 61, 693-706.	5.3	37
16	A New Run-to-Run Approach for Reducing Contact Bounce in Electromagnetic Switches. IEEE Transactions on Industrial Electronics, 2017, 64, 535-543.	7.9	37
17	Distributed consensus algorithms for merging feature-based maps with limited communication. Robotics and Autonomous Systems, 2011, 59, 163-180.	5.1	36
18	A distributed algorithm for average consensus on strongly connected weighted digraphs. Automatica, 2014, 50, 946-951.	5.0	36

#	Article	IF	Citations
19	Visual control of vehicles using two-view geometry. Mechatronics, 2010, 20, 315-325.	3.3	34
20	Persistent coverage control for a team of agents with collision avoidance. European Journal of Control, 2015, 22, 30-45.	2.6	34
21	Survey on multi-robot manipulation of deformable objects. , 2019, , .		33
22	Inductive Sensor for Temperature Measurement in Induction Heating Applications. IEEE Sensors Journal, 2012, 12, 996-1003.	4.7	32
23	Distributed Formation Stabilization Using Relative Position Measurements in Local Coordinates. IEEE Transactions on Automatic Control, 2016, 61, 3925-3935.	5.7	32
24	Adaptive Simmering Control for Domestic Induction Cookers. IEEE Transactions on Industry Applications, 2011, 47, 2257-2267.	4.9	30
25	Induction Heating Appliance With a Mobile Double-Coil Inductor. IEEE Transactions on Industry Applications, 2015, 51, 1945-1952.	4.9	30
26	Hybrid Dynamical Model for Reluctance Actuators Including Saturation, Hysteresis, and Eddy Currents. IEEE/ASME Transactions on Mechatronics, 2019, 24, 1396-1406.	5.8	30
27	A decentralized algorithm for balancing a strongly connected weighted digraph. , 2013, , .		28
28	Distributed Data Association in Robotic Networks With Cameras and Limited Communications. IEEE Transactions on Robotics, 2013, 29, 1408-1423.	10.3	27
29	Inverse modeling of pan heating in domestic cookers. Applied Thermal Engineering, 2016, 92, 137-148.	6.0	26
30	Epipolar Visual Servoing for Multirobot Distributed Consensus. IEEE Transactions on Robotics, 2013, 29, 1212-1225.	10.3	25
31	Adaptive Observers Applied to Pan Temperature Control of Induction Hobs. IEEE Transactions on Industry Applications, 2009, 45, 1116-1125.	4.9	23
32	Visual Control for Multirobot Organized Rendezvous. IEEE Transactions on Systems, Man, and Cybernetics, 2012, 42, 1155-1168.	5.0	23
33	Optimal reset adaptive observer design. Systems and Control Letters, 2011, 60, 877-883.	2.3	20
34	Distributed centroid estimation from noisy relative measurements. Systems and Control Letters, 2012, 61, 773-779.	2.3	20
35	Three-dimensional multirobot formation control for target enclosing. , 2014, , .		20
36	Dynamic heat and mass transfer model of an electric oven for energy analysis. Applied Thermal Engineering, 2016, 93, 683-691.	6.0	20

#	Article	IF	Citations
37	Visual map-less navigation based on homographies. Journal of Field Robotics, 2005, 22, 569-581.	0.7	19
38	From lines to epipoles through planes in two views. Pattern Recognition, 2006, 39, 384-393.	8.1	19
39	Multiple homographies with omnidirectional vision for robot homing. Robotics and Autonomous Systems, 2010, 58, 773-783.	5.1	19
40	Noisy Range Network Localization based on Distributed Multidimensional Scaling. IEEE Sensors Journal, 2014, , 1-1.	4.7	19
41	Persistent coverage control with variable coverage action in multi-robot environment. , 2013, , .		17
42	Visual navigation of wheeled mobile robots using direct feedback of a geometric constraint. Autonomous Robots, 2014, 37, 137-156.	4.8	17
43	A single visual-servo controller of mobile robots with super-twisting control. Robotics and Autonomous Systems, 2014, 62, 1623-1635.	5.1	17
44	Photogrammetric Methodology for the Production of Geomorphologic Maps: Application to the Veleta Rock Glacier (Sierra Nevada, Granada, Spain). Remote Sensing, 2009, 1, 829-841.	4.0	16
45	Power Distribution in Coupled Multiple-Coil Inductors for Induction Heating Appliances. IEEE Transactions on Industry Applications, 2016, 52, 2537-2544.	4.9	16
46	Modeling of pancake frying with non-uniform heating source applied to domestic cookers. Journal of Food Engineering, 2017, 195, 114-127.	5.2	16
47	Real-Time Electromagnetic Estimation for Reluctance Actuators. IEEE Transactions on Industrial Electronics, 2019, 66, 1952-1961.	7.9	16
48	Distributed multi-camera visual mapping using topological maps of planar regions. Pattern Recognition, 2011, 44, 1528-1539.	8.1	15
49	Thermal modeling, analysis and control using an electrical analogy. , 2014, , .		15
50	Distributed Robust Consensus Using RANSAC and Dynamic Opinions. IEEE Transactions on Control Systems Technology, 2015, 23, 150-163.	5.2	14
51	Optimal path planning and coverage control for multi-robot persistent coverage in environments with obstacles. , 2017, , .		13
52	Distributed entrapment for multi-robot systems with uncertainties. , 2013, , .		12
53	Triggered Minimum Spanning Tree for distributed coverage with connectivity maintenance. , 2014, , .		12
54	Reluctance actuator characterization via FEM simulations and experimental tests. Mechatronics, 2018, 56, 58-66.	3.3	12

#	Article	IF	Citations
55	Average consensus on strongly connected weighted digraphs: A generalized error bound. Automatica, 2015, 58, 1-4.	5.0	11
56	Multi-robot persistent coverage using branch and bound. , 2016, , .		11
57	Time delay compensation based on Smith Predictor in multiagent formation control. IFAC-PapersOnLine, 2017, 50, 11645-11651.	0.9	11
58	EDCHO: High order exact dynamic consensus. Automatica, 2021, 131, 109750.	5.0	11
59	Vision-based exponential stabilization of mobile robots. Autonomous Robots, 2011, 30, 293-306.	4.8	10
60	Adaptive consensus and algebraic connectivity estimation in sensor networks with chebyshev polynomials. , 2011, , .		10
61	Stability analysis of nonholonomic multiagent coordinate–free formation control subject to communication delays. International Journal of Robust and Nonlinear Control, 2018, 28, 4121-4138.	3.7	10
62	Run-to-Run Control With Bayesian Optimization for Soft Landing of Short-Stroke Reluctance Actuators. IEEE/ASME Transactions on Mechatronics, 2020, 25, 2645-2656.	5.8	10
63	Multi-robot distributed visual consensus using epipoles. , 2011, , .		9
64	Step size analysis in discrete-time dynamic average consensus. , 2014, , .		9
65	Feature-based map merging with dynamic consensus on information increments. Autonomous Robots, 2015, 38, 243-259.	4.8	9
66	Distributed formation control of non-holonomic robots without a global reference frame. , 2016, , .		9
67	Simultaneous Deployment and Tracking Multi-Robot Strategies with Connectivity Maintenance. Sensors, 2018, 18, 927.	3.8	9
68	Robust stability analysis of formation control in local frames under time-varying delays and actuator faults. Journal of the Franklin Institute, 2019, 356, 1131-1153.	3.4	9
69	Equitable persistent coverage of non-convex environments with graph-based planning. International Journal of Robotics Research, 2019, 38, 1674-1694.	8.5	9
70	Cooperative Periodic Coverage With Collision Avoidance. IEEE Transactions on Control Systems Technology, 2019, 27, 1411-1422.	5.2	8
71	Probability-Based Optimal Control Design for Soft Landing of Short-Stroke Actuators. IEEE Transactions on Control Systems Technology, 2020, 28, 1956-1963.	5.2	8
72	Predictor-feedback synthesis in coordinate-free formation control under time-varying delays. Automatica, 2020, 113, 108811.	5.0	8

#	Article	IF	Citations
73	An efficient dynamical model of reluctance actuators with flux fringing and magnetic hysteresis. Mechatronics, 2021, 74, 102500.	3.3	8
74	Fast distributed consensus with Chebyshev polynomials. , 2011, , .		7
75	Distributed robust data fusion based on dynamic voting. , 2011, , .		7
76	Distributed Consensus with Visual Perception in Multi-Robot Systems. , 2015, , .		6
77	Fast distributed algebraic connectivity estimation in large scale networks. Journal of the Franklin Institute, 2017, 354, 5421-5442.	3.4	6
78	Nonlinear bounded state estimation for sensorless control of an electromagnetic device. , 2017, , .		6
79	Intermittent Connectivity Maintenance With Heterogeneous Robots. IEEE Transactions on Robotics, 2021, 37, 225-245.	10.3	6
80	Angle-based homing from a reference image set using the 1D trifocal tensor. Autonomous Robots, 2013, 34, 73-91.	4.8	5
81	Multi-camera coverage of deformable contour shapes. , 2019, , .		5
82	Dynamic Consensus With Prescribed Convergence Time for Multileader Formation Tracking. , 2022, 6, 3014-3019.		5
83	Adaptive Multirobot Implicit Control of Heterogeneous Herds. IEEE Transactions on Robotics, 2022, 38, 3622-3635.	10.3	5
84	Feature-based map merging with dynamic consensus on information increments. , 2013, , .		4
85	Adaptive Action for Multiâ€Agent Persistent Coverage. Asian Journal of Control, 2016, 18, 419-432.	3.0	4
86	Weighted predictorâ€feedback formation control in local frames under timeâ€varying delays and switching topology. International Journal of Robust and Nonlinear Control, 2020, 30, 3484-3500.	3.7	4
87	Enclosing a moving target with an optimally rotated and scaled multiagent pattern. International Journal of Control, 2021, 94, 601-611.	1.9	4
88	REDCHO: Robust Exact Dynamic Consensus of High Order. Automatica, 2022, 141, 110320.	5.0	4
89	Planar motion estimation from 1D homographies. , 2012, , .		3
90	Sinusoidal input-based visual control for nonholonomic vehicles. Robotica, 2013, 31, 811-823.	1.9	3

#	Article	IF	Citations
91	Distributed map merging with consensus on common information. , 2013, , .		3
92	Scale-Free Vision-Based Aerial Control of a Ground Formation With Hybrid Topology. IEEE Transactions on Control Systems Technology, 2019, 27, 1703-1711.	5.2	3
93	Distributed Relative Localization Using the Multidimensional Weighted Centroid. IEEE Transactions on Control of Network Systems, 2020, 7, 1272-1282.	3.7	3
94	Coverage of deformable contour shapes with minimal multi-camera system. Measurement: Journal of the International Measurement Confederation, 2022, 190, 110693.	5.0	3
95	Multi-robot persistent coverage with optimal times. , 2016, , .		2
96	Connectivity-preserving formation stabilization of unicycles in local coordinates using minimum spanning tree. , 2016, , .		2
97	A Novel Algorithm Based on Bayesian Optimization for Run-to-Run Control of Short-Stroke Reluctance Actuators. , 2019, , .		2
98	Angle-Based Navigation Using the 1D Trifocal Tensor. Advances in Industrial Control, 2017, , 19-51.	0.5	2
99	EDC: Exact Dynamic Consensus. IFAC-PapersOnLine, 2020, 53, 2921-2926.	0.9	2
100	Multi-robot Formations: One Homography to Rule Them All. Advances in Intelligent Systems and Computing, 2014, , 703-714.	0.6	2
101	Model-Free Sliding-Mode Controller for Soft Landing of Reluctance Actuators. IFAC-PapersOnLine, 2020, 53, 6256-6261.	0.9	2
102	Controlling Multiple Robots through Multiple 1D Homographies. , 2013, , .		1
103	Distributed coverage estimation for multi-robot persistent tasks. , 2015, , .		1
104	Epipole-Based Guidance for an Autonomous Glider. Journal of Guidance, Control, and Dynamics, 2016, 39, 2073-2085.	2.8	1
105	Coordinate-Free Control of Multirobot Formations. Advances in Industrial Control, 2017, , 131-181.	0.5	1
106	Formation control synthesis in local frames under communication delays and switching topology: An LMI approach. , 2019, , .		1
107	Minimal multi-camera system for perception of deformable shapes. Jornadas De Jóvenes Investigadores Del I3A, 0, 7, .	0.0	1
108	Optimal Open-Loop Control Policies for a Class of Nonlinear Actuators. , 2019, , .		1

#	Article	IF	Citations
109	Rauch-Tung-Striebel Smoother for Position Estimation of Short-Stroke Reluctance Actuators. IEEE Transactions on Control Systems Technology, 2022, 30, 1641-1653.	5.2	1
110	Collision-free transport of 2D deformable objects. , 2021, , .		1
111	Controlling Mobile Robot Teams from 1D Homographies. Advances in Industrial Control, 2017, , 79-102.	0.5	0
112	Map Merging. SpringerBriefs in Computer Science, 2015, , 65-87.	0.2	0
113	Distributed Localization. SpringerBriefs in Computer Science, 2015, , 37-64.	0.2	0
114	Distributed Data Association. SpringerBriefs in Computer Science, 2015, , 11-36.	0.2	0
115	Vision-Based Control for Nonholonomic Vehicles. Advances in Industrial Control, 2017, , 53-77.	0.5	0
116	Conclusions and Directions for Future Research. Advances in Industrial Control, 2017, , 183-184.	0.5	0
117	Control of Mobile Robot Formations Using Aerial Cameras. Advances in Industrial Control, 2017, , 103-130.	0.5	0