Andrea Caiti

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/5162504/publications.pdf

Version: 2024-02-01

156	2,450	279701	265120
papers	citations	23 h-index	42 g-index

156	156	156	1759
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Passive Bearing Estimation Using a 2-D Acoustic Vector Sensor Mounted on a Hybrid Autonomous Underwater Vehicle. IEEE Journal of Oceanic Engineering, 2022, 47, 799-814.	2.1	6
2	Motion Planning for Marine Control Systems. , 2021, , 1333-1337.		0
3	Path Planning for Underwater Information Gathering Based on Genetic Algorithms and Data Stochastic Models. Journal of Marine Science and Engineering, 2021, 9, 1183.	1.2	11
4	Cooperative ASV/AUV system exploiting active acoustic localization. , 2021, , .		4
5	Underwater acoustic source localization using a multi-robot system: the DAMPS project. , 2021, , .		1
6	Marine Robots for Underwater Surveillance. Current Robotics Reports, 2020, 1, 159-167.	5.1	23
7	Interoperability Among Unmanned Maritime Vehicles: Review and First In-field Experimentation. Frontiers in Robotics and AI, 2020, 7, 91.	2.0	16
8	Underwater Communication. , 2020, , 1-10.		1
9	Comparative analysis of EKF and Particle Filter performance for an acoustic tracking system for AUVs exploiting bearing-only measurements. , 2020, , .		2
10	UKF-Based Navigation System for AUVs: Online Experimental Validation. IEEE Journal of Oceanic Engineering, 2019, 44, 633-641.	2.1	37
11	Nash equilibrium seeking in potential games with double-integrator agents. , 2019, , .		8
12	A distributed passivity approach to AUV teams control in cooperating potential games. Ocean Engineering, 2018, 157, 152-163.	1.9	24
13	Marine Robots in Environmental Surveys:ÂCurrent Developments atÂISMEâ€"Localisation and Navigation. Ocean Engineering & Oceanography, 2018, , 69-86.	0.1	1
14	A Soft Modular End Effector for Underwater Manipulation: A Gentle, Adaptable Grasp for the Ocean Depths. IEEE Robotics and Automation Magazine, 2018, 25, 45-56.	2.2	34
15	Towards an autonomous underwater vehicles test range: At-sea experimentation of bearing-only tracking algorithms. Annual Reviews in Control, 2018, 46, 304-314.	4.4	7
16	Augmented Virtuality for Coastal Management: A Holistic Use of In Situ and Remote Sensing for Large Scale Definition of Coastal Dynamics. ISPRS International Journal of Geo-Information, 2018, 7, 92.	1.4	14
17	Sea-Trial of Optical Ethernet Modems for Underwater Wireless Communications. Journal of Lightwave Technology, 2018, 36, 5371-5380.	2.7	26
18	WAVE module for hybrid oceanographic Autonomous Underwater Vehicleâ€"prototype experimental validation and characterisation. , 2018, , .		8

#	Article	IF	Citations
19	Sea-trial of an Ethernet-based Underwater VLC Communication System. , 2018, , .		5
20	Bearing-only AUV tracking performance: Unscented Kalman Filter estimation against uncertainty in underwater nodes position. IFAC-PapersOnLine, 2017, 50, 13674-13679.	0.5	3
21	An Evaluation of Deep Water Navigation Systems for Autonomous Underwater Vehicles * *This work has been supported by the NATO Allied Command Transformation (ACT), under the Collaborative Anti-Submarine Warfare Programme (CASW), by the Office of Naval Research Global under grant no. N62909-16-1-2095, and by the Collaborative Localisation and Navigation of Autonomous Underwater Vehicles (COOLAUV) Agreement between NATO STO CMRE and UniversitÃ di Pisa (ISME node).. IFAC-PapersOnLine, 2017, 50, 13680-13685.	0.5	10
22	On field experience on underwater acoustic localization through USBL modems. , 2017, , .		15
23	Distributed Task-priority Based Control in Area Coverage & Adaptive Sampling. , 2017, , .		3
24	A game theoretic approach for antagonistic-task coordination of underwater autonomous robots in asymmetric threats scenarios. , 2016, , .		7
25	Widely Scalable Mobile Underwater Sonar Technology: An Overview of the H2020 WiMUST Project. Marine Technology Society Journal, 2016, 50, 42-53.	0.3	25
26	Comparison between Optimal Control Allocation with Mixed Quadratic & Linear Programming Techniques. IFAC-PapersOnLine, 2016, 49, 147-152.	0.5	6
27	OptoCOMM: Development and experimentation of a new optical wireless underwater modem. , 2016, , .		4
28	A Distributed, Passivity-Based Control of Autonomous Mobile Sensors in an Underwater Acoustic Network. IFAC-PapersOnLine, 2016, 49, 367-372.	0.5	9
29	Overview and first year progress of the Widely scalable Mobile Underwater Sonar Technology H2020 project**This work has received funding from the European Unionâ€™s Horizon 2020 research and innovation programme under grant agreement No. 645141 (WiMUST project, http://www.wimust.eu).. IFAC-PapersOnLine, 2016, 49, 430-433.	0.5	4
30	OptoCOMM and SUNSET to enable large data offloading in Underwater Wireless Sensor Networks. , 2016, , .		2
31	Development and Online Validation of an UKF-based Navigation Algorithm for AUVs. IFAC-PapersOnLine, 2016, 49, 69-74.	0.5	14
32	Underwater Intervention Robotics: An Outline of the Italian National Project MARIS. Marine Technology Society Journal, 2016, 50, 98-107.	0.3	28
33	OptoCOMM: Introducing a new optical underwater wireless communication modem. , 2016, , .		13
34	Underwater communication requirements in coordinated autonomous manipulation: The MARIS project. , 2016, , .		0
35	A NLPCA hybrid approach for AUV thrusters fault detection and isolation. , 2016, , .		3
36	Cooperative navigation of AUVs via acoustic communication networking: field experience with the Typhoon vehicles. Autonomous Robots, 2016, 40, 1229-1244.	3.2	31

#	Article	IF	Citations
37	A task-priority based control approach to distributed data-driven ocean sampling. , 2016, , .		1
38	An unscented Kalman filter based navigation algorithm for autonomous underwater vehicles. Mechatronics, 2016, 39, 185-195.	2.0	70
39	A new AUV navigation system exploiting unscented Kalman filter. Ocean Engineering, 2016, 113, 121-132.	1.9	177
40	WAVE: A wave energy recovery module for long endurance gliders and AUVs. , 2016, , .		10
41	Assessing the Potential of Autonomous Multi-agent Surveillance in Asset Protection from Underwater Threats. Lecture Notes in Computer Science, 2016, , 204-213.	1.0	0
42	Information-driven cooperative distributed motion planning for long range search over marine areas. IFAC-PapersOnLine, 2015, 48, 23-28.	0.5	1
43	Typhoon at CommsNet13: Experimental experience on AUV navigation and localization. Annual Reviews in Control, 2015, 40, 157-171.	4.4	26
44	Enhancing autonomy: Fault detection, identification and optimal reaction for over — Actuated AUVs. , 2015, , .		4
45	A comparison between EKF-based and UKF-based navigation algorithms for AUVs localization. , 2015, , .		34
46	Fusing acoustic ranges and inertial measurements in AUV navigation: The Typhoon AUV at CommsNet13 sea trial. , 2014, , .		7
47	The project V-fides: A new generation AUV for deep underwater exploration, operation and monitoring. , 2014, , .		9
48	Cooperative Behaviours of AUV Teams and Networked Underwater Communication. , 2014, , .		2
49	Switching control of an underwater glider with independently controllable wings. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2014, 228, 136-145.	0.3	1
50	MARIS: A national project on marine robotics for interventions. , 2014, , .		22
51	Thesaurus: AUV teams for archaeological search. Field results on acoustic communication and localization with the Typhoon. , 2014, , .		5
52	Toward underwater acoustic-based simultaneous localization and mapping. Experimental results with the Typhoon AUV at CommsNet13 sea trial. , 2014, , .		6
53	Control-Sharing and Merging Control Lyapunov Functions. IEEE Transactions on Automatic Control, 2014, 59, 107-119.	3.6	23
54	Typhoon at CommsNet 2013: experimental experience on AUV navigation and localization. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 3370-3375.	0.4	9

#	Article	IF	Citations
55	Experimental results with a mixed USBL/LBL system for AUV navigation. , 2014, , .		26
56	Linking Acoustic Communications and Network Performance: Integration and Experimentation of an Underwater Acoustic Network. IEEE Journal of Oceanic Engineering, 2013, 38, 758-771.	2.1	46
57	Parametric control allocation for a class of marine vessels. Ocean Engineering, 2013, 58, 275-283.	1.9	3
58	Underwater communication and distributed localization of AUV teams. , 2013, , .		22
59	Experimental demonstration of high speed underwater visible light communications. , 2013, , .		75
60	Further results on merging control Lyapunov functions for linear differential inclusions. , 2013, , .		0
61	Potential games and AUVs cooperation: First results from the THESAURUS project. , 2013, , .		5
62	Mobile Underwater Sensor Networks for Protection and Security: Field Experience at the UAN11 Experiment. Journal of Field Robotics, 2013, 30, 237-253.	3.2	29
63	Cooperative distributed algorithm for AUV teams: A minimum entropy approach. , 2013, , .		4
64	A universal class of non-homogeneous control Lyapunov functions for linear differential inclusions. , 2013, , .		3
65	Underwater Sensor Networks with Mobile Agents: Experience from the Field. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2013, , 79-93.	0.2	1
66	Motion Planning for Marine Control Systems. , 2013, , 1-6.		0
67	Secure Cooperation of Autonomous Mobile Sensors Using an Underwater Acoustic Network. Sensors, 2012, 12, 1967-1989.	2.1	47
68	Underwater acoustic network performance: Results from the UAN11 sea trial. , 2012, , .		8
69	AUV team cooperation: emerging behaviours and networking modalities. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 342-347.	0.4	6
70	On the dependence of cooperative algorithms on underwater communication performance. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 84-88.	0.4	0
71	Cooperative Cognitive Control for Autonomous Underwater Vehicles (CO3AUVs): overview and progresses in the 3rd project year. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 361-366.	0.4	6
72	Switching control of an underwater glider with independently controllable wings. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 194-199.	0.4	2

#	Article	IF	Citations
73	Underwater Acoustic Networks: The FP7 UAN Project. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 220-225.	0.4	7
74	Parametric Control Allocation for Vessels Equipped with Two Non-Fully Rotable Thrusters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 368-373.	0.4	1
75	Lagrangian Modelling of an Underwater Wave Glider. Ship Technology Research, 2012, 59, 6-12.	1.1	5
76	A new class of Lyapunov functions for the constrained stabilization of linear systems. Automatica, 2012, 48, 2951-2955.	3.0	14
77	Multivariable constrained process control via Lyapunov R-functions. Journal of Process Control, 2012, 22, 1762-1772.	1.7	8
78	A Geographical Information System (GIS)-Based Simulation Tool to Assess Civilian Harbor Protection Levels. IEEE Journal of Oceanic Engineering, 2012, 37, 85-102.	2.1	16
79	Thesaurus Project: Design of New Autonomous Underwater Vehicles for Documentation and Protection of Underwater Archaeological Sites. Lecture Notes in Computer Science, 2012, , 486-493.	1.0	8
80	MOOS middleware and node adaptivity in underwater sensor networks: results from the UAN11 sea trial. Proceedings of Meetings on Acoustics, 2012, , .	0.3	0
81	The CO³AUVs (Cooperative Cognitive Control for Autonomous Underwater) Tj ETQq1 1 0.784314 rgBT /Over		20
82	UAN — Underwater Acoustic Network. , 2011, , .		3
83	Cooperative distributed behaviours of an AUV network for asset protection with communication constraints. , 2011, , .		4
84	Logical composition of Lyapunov functions. International Journal of Control, 2011, 84, 563-573.	1.2	6
85	AUVs as mobile nodes in acoustic communication networks: Field experience at the UAN10 experiment. , 2011, , .		8
86	Stabilizability of constrained uncertain linear systems via smooth control Lyapunov R-functions. , 2011, , .		5
87	A statistical tool for analysing nonlinear properties of dynamical systems. , 2011, , .		1
88	Lagrangian modeling of the Underwater Wave Glider. , 2011, , .		7
89	A Bregman nonlinear proximal point algorithm for adaptive control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 4095-4100.	0.4	1
90	Stabilization of constrained linear systems via smoothed truncated ellipsoids. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6739-6744.	0.4	6

#	Article	IF	Citations
91	Autonomous underwater vehicle teams for adaptive ocean sampling: a data-driven approach. Ocean Dynamics, 2011, 61, 1981-1994.	0.9	49
92	RT2: real-time ray-tracing for underwater range evaluation. Intelligent Service Robotics, 2011, 4, 259-270.	1.6	5
93	Constrained stabilization of a continuous stirred tank reactor via smooth control Lyapunov R-functions. , 2011, , .		2
94	A Generalised Entropy ofÂCurves Approach forÂtheÂAnalysis ofÂDynamical Systems. , 2011, , 381-388.		2
95	A Sliding Mode Based Guidance System for Vehicle-Following Operations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 342-347.	0.4	1
96	Stabilizability of linear differential inclusions via R-functions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1092-1097.	0.4	13
97	Real-Time Ray-Tracing for Underwater Distance Evaluation with Application to Distributed Localization of AUV Teams. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 211-216.	0.4	2
98	R-composition of quadratic Lyapunov functions for stabilizability of linear differential inclusions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 204-210.	0.4	0
99	The Hybrid Glider/AUV Folaga. IEEE Robotics and Automation Magazine, 2010, 17, 31-44.	2.2	65
100	Control-oriented modelling of a hybrid AUV. , 2010, , .		9
101	Designing behaviors to improve observability for relative localization of AUVs. , 2010, , .		9
102	DCL: a real time portable distributed control telelaboratory. , 2010, , .		2
103	Adaptive Cooperative Algorithms for AUV Networks. , 2010, , .		4
104	RT²: A Real-Time Ray-Tracing method for acoustic distance evaluations among cooperating AUVs. , 2010, , .		12
105	Using geometric control to design trajectories for an AUV to map and sample the summit of the Loihi submarine volcano. , 2010, , .		1
106	Physical Characterization of Acoustic Communication Channel Properties in Underwater Mobile Sensor Networks. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 111-126.	0.2	14
107	Stability analysis of dynamical systems via R-functions. , 2009, , .		10
108	Underwater vehicle technology in the European Research Project VENUS. Underwater Technology, 2009, 28, 175-185.	0.3	7

#	Article	IF	Citations
109	Generalised Entropy of Curves for the Analysis and Classification of Dynamical Systems. Entropy, 2009, 11, 249-270.	1.1	11
110	FÃ²laga: A low-cost autonomous underwater vehicle combining glider and AUV capabilities. Ocean Engineering, 2009, 36, 24-38.	1.9	155
111	R-composition of Lyapunov functions. , 2009, , .		9
112	Cooperating Auv teams: Adaptive area coverage with space-varying communication constraints. , 2009, , .		11
113	HISS: Harbour intrusion simulator system. , 2009, , .		4
114	From Remote Experiments to Web-Based Learning Objects: An Advanced Telelaboratory for Robotics and Control Systems. IEEE Transactions on Industrial Electronics, 2009, 56, 4817-4825.	5.2	26
115	FÃ²laga: a low cost AUV/glider for coastal environmental sampling. Underwater Technology, 2009, 28, 151-157.	0.3	4
116	A generalised entropy of curves: An approach to the analysis of dynamical systems. , 2008, , .		4
117	Distributed Adaptive Environmental Sampling with AUVs: Cooperation and Team Coordination through Minimum-Spanning-Tree Graph Searching Algorithms. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 50-55.	0.4	4
118	Adaptive on-line planning of environmental sampling missions with a team of cooperating autonomous underwater vehicles. International Journal of Control, 2007, 80, 1151-1168.	1.2	20
119	Combining networks of drifting profiling floats and gliders for adaptive sampling of the Ocean. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	20
120	Particle Filtering within a Set-Membership Approach to State Estimation. , 2006, , .		1
121	PP algorithm for Particle Filtering within Ellipsoidal Regions. , 2006, , .		0
122	Innovative technologies in underwater archaeology: field experience, open problems, and research lines. Chemistry and Ecology, 2006, 22, S383-S396.	0.6	6
123	Efficient numerical approximation of maximum entropy estimates. International Journal of Control, 2006, 79, 1145-1155.	1.2	5
124	GIS tools application for risk assessment of toxic waste buried in seafloor sediments. Chemistry and Ecology, 2006, 22, S145-S161.	0.6	2
125	Cooperative On-Line Planning For Adaptive Map Building In Environmental Applications. , 2006, , .		2
126	FOLAGA: A VERY LOW COST AUTONOMOUS UNDERWATER VEHICLE FOR COASTAL OCEANOGRAPHY. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 31-36.	0.4	8

#	Article	IF	Citations
127	Online robotic experiments for tele-education at the university of pisa. Journal of Field Robotics, 2005, 22, 217-230.	0.7	9
128	RISK ASSESSMENT OF SEAFLOOR WASTE: ACOUSTICAL IMAGING OF BURIED WASTE. Journal of Computational Acoustics, 2005, 13, 385-401.	1.0	1
129	On the analysis of buried objects by processing 3-D acoustic images. , 2005, , .		1
130	Localization of Autonomous Underwater Vehicles by Floating Acoustic Buoys: A Set-Membership Approach. IEEE Journal of Oceanic Engineering, 2005, 30, 140-152.	2.1	104
131	Biotoxicity testing and chemical analysis at a munitions dumping area in the Stockholm archipelago (Baltic Sea) revealed low toxicity and low concentrations of lipophilic pollutants. , 2005, , .		1
132	A geographical information system for risk assessment of toxic seabed dumpsites. , 2005, , .		2
133	A Monte Carlo simulator for evaluation of AUV configuration in object search and classification missions. , 2005, , .		2
134	Evolutionary Path Planning for Autonomous Underwater Vehicles in a Variable Ocean. IEEE Journal of Oceanic Engineering, 2004, 29, 418-429.	2.1	308
135	Desing and realization of a very low cost prototypal autonomous vehicle for coastal oceanographic missions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 471-476.	0.4	3
136	SEAFLOOR PROPERTIES DETERMINATION FROM ACOUSTIC BACKSCATTERING AT NORMAL INCIDENCE WITH A PARAMETRIC SOURCE. Journal of Computational Acoustics, 2000, 08, 365-388.	1.0	1
137	Inversion of Normal Incidence Backscattered Data: Getting Seabed Geoacoustic and Morphological Parameters. , 2000, , 177-194.		0
138	Parametric sonars for seafloor characterization. Measurement Science and Technology, 1999, 10, 1105-1115.	1.4	23
139	<title>Teleoperations with shared explicit contact force control</title>. , 1997, , .		0
140	Geoacoustic seafloor exploration with a towed array in a shallow water area of the Strait of Sicily. IEEE Journal of Oceanic Engineering, 1996, 21, 355-366.	2.1	35
141	A multiquadrics-based algorithm for the acceleration of simulated annealing optimization procedures. IEEE Transactions on Magnetics, 1996, 32, 1198-1201.	1.2	33
142	Acoustic estimation of seafloor parameters: A radial basis functions approach. Journal of the Acoustical Society of America, 1996, 100, 1473-1481.	0.5	22
143	ESTIMATING GEOACOUSTIC BOTTOM PROPERTIES FROM TOWED ARRAY DATA. Journal of Computational Acoustics, 1996, 04, 273-290.	1.0	18
144	Towards the realization of an artificial tactile system: fine-form discrimination by a tensorial tactile sensor array and neural inversion algorithms. IEEE Transactions on Systems, Man, and Cybernetics, 1995, 25, 933-946.	0.9	30

#	Article	IF	Citations
145	Stabilization of spectral methods for the analysis of singular systems using piecewise constant basis functions. Circuits, Systems, and Signal Processing, 1995, 14, 299-316.	1.2	3
146	Beamforming on seismic interface waves with an array of geophones on the shallow sea floor. IEEE Journal of Oceanic Engineering, 1995, 20, 300-310.	2.1	22
147	Spectral methods for the solution of linear descriptor systems using Fourier functions. Circuits, Systems, and Signal Processing, 1994, 13, 225-239.	1.2	3
148	Estimation of shear wave velocity in shallow marine sediments. IEEE Journal of Oceanic Engineering, 1994, 19, 58-72.	2.1	45
149	Mapping ocean sediments by RBF networks. IEEE Journal of Oceanic Engineering, 1994, 19, 577-582.	2.1	19
150	Skin-like tactile sensor arrays for contact stress field extraction. Materials Science and Engineering C, 1993, 1, 23-36.	3.8	26
151	Comments on the properties of the operational matrices of integration and differentiation for Fourier trigonometric functions. IEEE Transactions on Automatic Control, 1993, 38, 667-671.	3.6	2
152	Experimental experience on iterative learning control implemented on a prototypal manipulator. , 1991, , .		2
153	Tactile Sensing for Stable Grasp. , 1991, , 257-264.		6
154	Regularization techniques for the analysis of singular dynamic systems. , 1990, , .		9
155	Inversion Of Tactile Data Through A Skin-like Sensor Sensitive To Stress Components. , 0, , .		6
156	Manipulators trajectory tracking with reduced order velocity observers. , 0, , .		0