Yvan R PÃ©tillot

List of Publications by Year
in descending order

123 papers	3,434 citations	279798 23 h-index	223800 46 g-index
123 all docs	123 docs citations	123 times ranked	2400 citing authors

#	Article	IF	Citations
1	Path Planning for Autonomous Underwater Vehicles. , 2007, 23, 331-341.		330
2	Underwater vehicle obstacle avoidance and path planning using a multi-beam forward looking sonar. IEEE Journal of Oceanic Engineering, 2001, 26, 240-251.	3.8	187
3	An automatic approach to the detection and extraction of mine features in sidescan sonar. IEEE Journal of Oceanic Engineering, 2003, 28, 90-105.	3.8	172
4	Underwater depth imaging using time-correlated single-photon counting. Optics Express, 2015, 23, 33911.	3.4	153
5	Unconstrained Synthesis of Covariance Matrix for MIMO Radar Transmit Beampattern. IEEE Transactions on Signal Processing, 2011, 59, 3837-3849.	5.3	125
6	Concurrent mapping and localization using sidescan sonar. IEEE Journal of Oceanic Engineering, 2004, 29, 442-456.	3.8	117
7	StaticFusion: Background Reconstruction for Dense RGB-D SLAM in Dynamic Environments. , 2018, , .		117
8	Adaptive low-level control of autonomous underwater vehicles using deep reinforcement learning. Robotics and Autonomous Systems, 2018, 107, 71-86.	5.1	116
9	Fourier†based Registration for Robust Forward†looking Sonar Mosaicing in Low†visibility Underwater Environments. Journal of Field Robotics, 2015, 32, 123-151.	6.0	102
10	Finite Alphabet Constant-Envelope Waveform Design for MIMO Radar. IEEE Transactions on Signal Processing, 2011, 59, 5326-5337.	5.3	98
11	Underwater Robots: From Remotely Operated Vehicles to Intervention-Autonomous Underwater Vehicles. IEEE Robotics and Automation Magazine, 2019, 26, 94-101.	2.0	97
12	Multiresolution 3-D Reconstruction From Side-Scan Sonar Images. IEEE Transactions on Image Processing, 2007, 16, 382-390.	9.8	80
13	The fusion of large scale classified side-scan sonar image mosaics. IEEE Transactions on Image Processing, 2006, 15, 2049-2060.	9.8	65
14	Semantic Knowledge-Based Framework to Improve the Situation Awareness of Autonomous Underwater Vehicles. IEEE Transactions on Knowledge and Data Engineering, 2011, 23, 759-773.	5.7	60
15	RadarSLAM: Radar based Large-Scale SLAM in All Weathers. , 2020, , .		56
16	Sidescan Sonar Segmentation Using Texture Descriptors and Active Contours. IEEE Journal of Oceanic Engineering, 2007, 32, 744-752.	3.8	53
17	Three†dimensional reconstruction of underwater objects using wide†aperture imaging SONAR. Journal of Field Robotics, 2018, 35, 890-905.	6.0	49
18	Learning Mobile Manipulation through Deep Reinforcement Learning. Sensors, 2020, 20, 939.	3.8	49

#	Article	IF	Citations
19	A survey on Terrain Based Navigation for AUVs. , 2010, , .		46
20	Fourier-based registrations for two-dimensional forward-looking sonar image mosaicing. , 2012, , .		46
21	EKF-SLAM for AUV navigation under probabilistic sonar scan-matching. , 2010, , .		44
22	Feature Tracking in Video and Sonar Subsea Sequences with Applications. Computer Vision and Image Understanding, 2000, 79, 92-122.	4.7	40
23	Detection and Tracking of Multiple Metallic Objects in Millimetre-Wave Images. International Journal of Computer Vision, 2007, 71, 183-196.	15.6	40
24	3D Laser Scanner for Underwater Manipulation. Sensors, 2018, 18, 1086.	3.8	40
25	A particle filter approach for AUV localization. , 2008, , .		35
26	Global Localization with Object-Level Semantics and Topology. , 2019, , .		34
27	Pose-based SLAM with probabilistic scan matching algorithm using a mechanical scanned imaging sonar. , 2009, , .		33
28	Feature extraction for underwater visual SLAM. , 2011, , .		33
29	Human Body Pose Estimation with Particle Swarm Optimisation. Evolutionary Computation, 2008, 16, 509-528.	3.0	32
30	Connected Sensors, Innovative Sensor Deployment, and Intelligent Data Analysis for Online Water Quality Monitoring. IEEE Internet of Things Journal, 2021, 8, 13805-13824.	8.7	32
31	Evaluation of registration methods on two-dimensional forward-looking sonar imagery. , 2013, , .		30
32	TextPlace: Visual Place Recognition and Topological Localization Through Reading Scene Texts. , 2019, , .		29
33	Coupled and Decoupled Force/Motion Controllers for an Underwater Vehicle-Manipulator System. Journal of Marine Science and Engineering, 2018, 6, 96.	2.6	26
34	AUV localisation: a review of passive and active techniques. International Journal of Intelligent Robotics and Applications, 2022, 6, 246-269.	2.8	26
35	Direct visual SLAM fusing proprioception for a humanoid robot. , 2017, , .		25
36	AUV Position Tracking Control Using End-to-End Deep Reinforcement Learning. , 2018, , .		24

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37	Predicted Detection Performance of MIMO Radar. IEEE Signal Processing Letters, 2008, 15, 83-86.	3.6	23
38	Efficient Resource Allocation for Attentive Automotive Vision Systems. IEEE Transactions on Intelligent Transportation Systems, 2012, 13, 859-872.	8.0	22
39	Learning Generalizable Coupling Terms for Obstacle Avoidance via Low-Dimensional Geometric Descriptors. IEEE Robotics and Automation Letters, 2019, 4, 3979-3986.	5.1	21
40	Image processing techniques for metallic object detection with millimetre-wave images. Pattern Recognition Letters, 2006, 27, 1843-1851.	4.2	20
41	Model-driven analysis and design for software development of autonomous underwater vehicles. Robotica, 2015, 33, 1731-1750.	1.9	20
42	Spatially Distributed MIMO Sonar Systems: Principles and Capabilities. IEEE Journal of Oceanic Engineering, 2017, 42, 738-751.	3.8	20
43	Robust Underwater Visual SLAM Fusing Acoustic Sensing. , 2021, , .		20
44	High-Resolution Sonars: What Resolution Do We Need for Target Recognition?. Eurasip Journal on Advances in Signal Processing, 2010, 2010, .	1.7	19
45	Sampling-Based Path Planning for Cooperative Autonomous Maritime Vehicles to Reduce Uncertainty in Range-Only Localization. IEEE Robotics and Automation Letters, 2019, 4, 3987-3994.	5.1	19
46	Model-based approach to the detection and classification of mines in sidescan sonar. Applied Optics, 2004, 43, 237.	2.1	18
47	Underwater 3D reconstruction using BlueView imaging sonar. , 2015, , .		18
48	Position/force operational space control for underwater manipulation. Robotics and Autonomous Systems, 2018, 100, 150-159.	5.1	18
49	Investigation of autonomous docking strategies for robotic operation on intervention panels. , 2008, , .		17
50	Online 3-Dimensional Path Planning with Kinematic Constraints in Unknown Environments Using Hybrid A* with Tree Pruning. Sensors, 2021, 21, 1152.	3.8	17
51	Path Planning for Manipulation Using Experience-Driven Random Trees. IEEE Robotics and Automation Letters, 2021, 6, 3295-3302.	5.1	17
52	Image analysis for object detection in millimetre-wave images. , 2004, , .		16
53	An adaptive controller for autonomous underwater vehicles. , 2015, , .		16
54	Porous Elastomer Based Wide Range Flexible Pressure Sensor for Autonomous Underwater Vehicles. IEEE Sensors Journal, 2022, 22, 9914-9921.	4.7	16

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55	euRathlon 2015: A Multi-domain Multi-robot Grand Challenge for Search and Rescue Robots. Lecture Notes in Computer Science, 2016, , 351-363.	1.3	15
56	Semantic knowledge-based representation for improving situation awareness in service oriented agents of autonomous underwater vehicles. , 2008, , .		14
57	Feature based slam using side-scan salient objects. , 2010, , .		14
58	Image processing optimization by genetic algorithm with a new coding scheme. Pattern Recognition Letters, 1995, 16, 843-848.	4.2	13
59	Real-time sidescan simulator and applications. , 2009, , .		13
60	Dynamic coupling and control issues for a lightweight underwater vehicle manipulator system. , 2014, , .		13
61	Robust TDA-MAC for practical underwater sensor network deployment. , 2018, , .		13
62	Sonar-based AUV localization using an improved particle filter approach. , 2009, , .		12
63	Increasing circular synthetic aperture sonar resolution via adapted wave atoms deconvolution. Journal of the Acoustical Society of America, 2017, 141, 2623-2632.	1.1	12
64	RadarSLAM: A robust simultaneous localization and mapping system for all weather conditions. International Journal of Robotics Research, 2022, 41, 519-542.	8.5	12
65	Fault tolerant adaptive mission planning with semantic knowledge representation for autonomous underwater vehicles. , 2008, , .		11
66	Underwater Visual Acoustic SLAM with Extrinsic Calibration. , 2021, , .		11
67	Adaptive mission plan diagnosis and repair for fault recovery in autonomous underwater vehicles. , 2008, , .		10
68	Particle Filter Based AUV Localization using Imaging Sonar. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 52-57.	0.4	10
69	The Application of Bioinspired Sonar to Cable Tracking on the Seafloor. Eurasip Journal on Advances in Signal Processing, 2011, 2011, .	1.7	10
70	Capability-oriented robot architecture for maritime autonomy. Robotics and Autonomous Systems, 2015, 67, 87-104.	5.1	10
71	Online Mapping and Motion Planning Under Uncertainty for Safe Navigation in Unknown Environments. IEEE Transactions on Automation Science and Engineering, 2022, 19, 3356-3378.	5.2	10
72	From market-ready ROVs to low-cost AUVs. , 2021, , .		10

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73	Large MIMO sonar systems: A tool for underwater surveillance. , 2014, , .		9
74	Performance measures to improve evaluation of teams in the euRathlon 2014 sea robotics competitionâ˜…. IFAC-PapersOnLine, 2015, 48, 224-230.	0.9	9
75	Visual SLAM for 3D large-scale seabed acquisition employing underwater vehicles. , 2008, , .		8
76	Investigation of portability of space docking techniques for autonomous underwater docking. , 2009, , .		8
77	Acoustic Stereo Imaging (ASI) system. , 2009, , .		8
78	Integrated MCM missions using heterogeneous fleets of AUVs. , 2012, , .		8
79	Reducing false alarms in automated target recognition using local sea-floor characteristics. , 2014, , .		8
80	Structured light and stereo vision for underwater 3D reconstruction. , 2015, , .		8
81	Self-Assessment of Grasp Affordance Transfer. , 2020, , .		8
82	Selective Submap Joining for underwater large scale 6-DOF SLAM. , 2010, , .		7
83	Cognitive Control Architecture for autonomous marine vehicles. , 2012, , .		7
84	Cascade of boosted classifiers for automatic target recognition in synthetic aperture sonar imagery. Proceedings of Meetings on Acoustics, 2013, , .	0.3	7
85	Design of artificial landmarks for underwater simultaneous localisation and mapping. IET Radar, Sonar and Navigation, 2013, 7, 10-18.	1.8	7
86	Reduction of the dynamic coupling in an underwater vehicle-manipulator system using an inverse dynamic model approach. IFAC-PapersOnLine, 2015, 48, 44-49.	0.9	7
87	Robust Silent Localization of Underwater Acoustic Sensor Network Using Mobile Anchor(s). Sensors, 2021, 21, 727.	3.8	7
88	A global control scheme for free-floating vehicle-manipulators. , 2013, , .		6
89	Wideband CDMA Waveforms for Large MIMO Sonar Systems. , 2015, , .		6
90	Depth imaging in highly scattering underwater environments using time-correlated single-photon counting. Proceedings of SPIE, 2016, , .	0.8	6

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91	Learning and Composing Primitive Skills for Dual-Arm Manipulation. Lecture Notes in Computer Science, 2019, , 65-77.	1.3	6
92	Local map update for large scale SLAM. Electronics Letters, 2010, 46, 564.	1.0	5
93	Detector and Waveform Design for MIMO Radar System with Noisy Channel Estimation. IEEE Transactions on Aerospace and Electronic Systems, 2012, 48, 2332-2348.	4.7	5
94	An Ontology-Based Approach to Fault Tolerant Mission Execution for Autonomous Platforms. , 2013, , 225-255.		5
95	MIMO sonar systems for harbour surveillance. , 2015, , .		5
96	Ocean Monitoring Framework based on Compressive Sensing using Acoustic Sensor Networks. , 2018, , .		5
97	Multi-agent Strategy for Marine Applications via Temporal Planning. , 2019, , .		5
98	Exploring Interaction with Remote Autonomous Systems using Conversational Agents. , 2019, , .		5
99	Application of Adaptive and Switching Control for Contact Maintenance of a Robotic Vehicle-Manipulator System for Underwater Asset Inspection. Frontiers in Robotics and AI, 2021, 8, 706558.	3.2	5
100	Sectorized FMCW MIMO Radar by Modular Design With Non-Uniform Sparse Arrays. IEEE Journal of Microwaves, 2022, 2, 442-460.	6.5	5
101	Interoperability of agent capabilities for autonomous knowledge acquisition and decision making in unmanned platforms. , 2009, , .		4
102	Speeding-up Particle Convergence with Probabilistic Active Localisation for AUV. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 521-526.	0.4	4
103	Performance and accuracy in visual motion computation from FS sonar video sequences. , 2010, , .		4
104	Marine world representation and acoustic communication: Challenges for multi-robot collaboration. , 2012, , .		4
105	A hybrid algorithm for coverage path planning with imperfect sensors. , 2013, , .		4
106	A Natural Language Interface with Relayed Acoustic Communications for Improved Command and Control of AUVs. , 2018, , .		4
107	euRathlon and ERL Emergency: A Multi-domain Multi-robot Grand Challenge for Search and Rescue Robots. Advances in Intelligent Systems and Computing, 2018, , 263-271.	0.6	4
108	Robust Underwater SLAM using Autonomous Relocalisation. IFAC-PapersOnLine, 2021, 54, 273-280.	0.9	4

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109	Manipulation at optimum locations for maximum force transmission with mobile robots under environmental disturbances. Autonomous Robots, 2022, 46, 769-782.	4.8	4
110	Particle diversity reduction for AUV's active localisation. , 2010, , .		3
111	Cyber-physical framework for early integration of autonomous maritime capabilities. , 2013, , .		3
112	Underwater depth imaging using time-correlated single photon counting. , 2015, , .		3
113	Sliding Mode Controller for Positioning of an Underwater Vehicle Subject to Disturbances and Time Delays. , 2022, , .		3
114	Submapping SLAM based on acoustic data from a 6-DOF AUV. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 16-21.	0.4	2
115	Multi-compartment heart segmentation in CT angiography using a spatially varying gaussian classifier. International Journal of Computer Assisted Radiology and Surgery, 2012, 7, 829-836.	2.8	2
116	Millimetre-Wave Personnel Scanners for Automated Weapon Detection. Lecture Notes in Computer Science, 2005, , 48-57.	1.3	2
117	Underwater Three-Dimensional Imaging using Single-Photon Detection. , 2017, , .		2
118	Target detection using statistical MIMO. Proceedings of Meetings on Acoustics, 2013, , .	0.3	1
119	Towards Robust Mission Execution via Temporal and Contingent Planning. Lecture Notes in Computer Science, 2020, , 214-217.	1.3	1
120	3-D Motion Estimation in passive navigation by acoustic imaging. , 2010, , .		0
121	Target classification in SAS imagery using orthogonal basis selection. , 2017, , .		0
122	Learning-Based Underwater Autonomous Grasping via 3D Point Cloud. , 2021, , .		0
123	Temporal Planning with Incomplete Knowledge and Perceptual Information. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 362, 37-53.	0.8	0