Stefan B Williams

List of Publications by Year
in descending order

101 papers	4,149 citations	159585 30 h-index	175258 52 g-index
107 all docs	107 docs citations	107 times ranked	4599 citing authors

#	Article	IF	Citations
1	Leveraging Metadata in Representation Learning With Georeferenced Seafloor Imagery. IEEE Robotics and Automation Letters, 2021, 6, 7815-7822.	5.1	9
2	Improved Multipath Time Delay Estimation Using Cepstrum Subtraction. , 2019, , .		5
3	Towards a macroscope: Leveraging technology to transform the breadth, scale and resolution of macroecological data. Global Ecology and Biogeography, 2019, 28, 1937-1948.	5.8	20
4	Convolutional neural network for single-sensor acoustic localization of a transiting broadband source in very shallow water. Journal of the Acoustical Society of America, 2019, 146, 4687-4698.	1.1	19
5	Coregistered Hyperspectral and Stereo Image Seafloor Mapping from an Autonomous Underwater Vehicle. Journal of Field Robotics, 2018, 35, 312-329.	6.0	27
6	Adaptive path planning for depthâ€constrained bathymetric mapping with an autonomous surface vessel. Journal of Field Robotics, 2018, 35, 345-358.	6.0	16
7	Habitat structural complexity metrics improve predictions of fish abundance and distribution. Ecography, 2018, 41, 1077-1091.	4.5	61
8	Multiple field-based methods to assess the potential impacts of seismic surveys on scallops. Marine Pollution Bulletin, 2018, 129, 750-761.	5.0	17
9	Sound Source Localization in a Multipath Environment Using Convolutional Neural Networks. , 2018, , .		47
10	Light Field Image Restoration for Vision in Scattering Media. , 2018, , .		2
11	BioTIME: A database of biodiversity time series for the Anthropocene. Global Ecology and Biogeography, 2018, 27, 760-786.	5.8	289
12	Large-scale assessment of benthic communities across multiple marine protected areas using an autonomous underwater vehicle. PLoS ONE, 2018, 13, e0193711.	2.5	19
13	A simple, fast, and repeatable survey method for underwater visual 3D benthic mapping and monitoring. Ecology and Evolution, 2017, 7, 1770-1782.	1.9	69
14	Multimodal learning and inference from visual and remotely sensed data. International Journal of Robotics Research, 2017, 36, 24-43.	8.5	26
15	Characterization of measurement errors using structureâ€fromâ€motion and photogrammetry to measure marine habitat structural complexity. Ecology and Evolution, 2017, 7, 5669-5681.	1.9	49
16	Convolutional neural networks for passive monitoring of a shallow water environment using a single sensor. , 2017, , .		31
17	A benchmarking study on single image dehazing techniques for underwater autonomous vehicles. , 2017, , .		6
18	Stereoâ€imaging AUV detects trends in sea urchin abundance on deep overgrazed reefs. Limnology and Oceanography: Methods, 2016, 14, 293-304.	2.0	35

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19	True Color Correction of Autonomous Underwater Vehicle Imagery. Journal of Field Robotics, 2016, 33, 853-874.	6.0	77
20	Reflections on a decade of autonomous underwater vehicles operations for marine survey at the Australian Centre for Field Robotics. Annual Reviews in Control, 2016, 42, 158-165.	7.9	16
21	Biometric assessment of deep-sea vent megabenthic communities using multi-resolution 3D image reconstructions. Deep-Sea Research Part I: Oceanographic Research Papers, 2016, 116, 200-219.	1.4	48
22	Geomorphic changes of a coral shingle cay measured using Kite Aerial Photography. Geomorphology, 2016, 270, 1-8.	2.6	19
23	Multimodal information-theoretic measures for autonomous exploration. , 2016, , .		4
24	Quantifying the response of structural complexity and community composition to environmental change in marine communities. Global Change Biology, 2016, 22, 1965-1975.	9.5	81
25	Mid-water current aided localization for autonomous underwater vehicles. Autonomous Robots, 2016, 40, 1207-1227.	4.8	34
26	Outcropping reef ledges drive patterns of epibenthic assemblage diversity on cross-shelf habitats. Biodiversity and Conservation, 2016, 25, 485-502.	2.6	14
27	Simple change detection from mobile light field cameras. Computer Vision and Image Understanding, 2016, 145, 160-171.	4.7	11
28	Return to Antikythera: Multi-session SLAM Based AUV Mapping of a First Century B.C. Wreck Site. Springer Tracts in Advanced Robotics, 2016, , 45-59.	0.4	13
29	Australian sea-floor survey data, with images and expert annotations. Scientific Data, 2015, 2, 150057.	5.3	31
30	Spatially informed spectral unmixing. , 2015, , .		0
31	Linear Volumetric Focus for Light Field Cameras. ACM Transactions on Graphics, 2015, 34, 1-20.	7.2	116
32	Discovering salient regions on 3D photo-textured maps: Crowdsourcing interaction data from multitouch smartphones and tablets. Computer Vision and Image Understanding, 2015, 131, 28-41.	4.7	3
33	Hierarchical Bayesian models for unsupervised scene understanding. Computer Vision and Image Understanding, 2015, 131, 128-144.	4.7	12
34	Hierarchical Classification in AUV Imagery. Springer Tracts in Advanced Robotics, 2015, , 3-16.	0.4	18
35	Structured Output Prediction with Hierarchical Loss Functions for Seafloor Imagery Taxonomic Categorization. Lecture Notes in Computer Science, 2015, , 173-183.	1.3	9
36	Large-Scale Geographic Variation in Distribution and Abundance of Australian Deep-Water Kelp Forests. PLoS ONE, 2015, 10, e0118390.	2.5	66

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37	Estimation of Clustering Parameters Using Gaussian Process Regression. PLoS ONE, 2014, 9, e111522.	2.5	1
38	Variable Responses of Benthic Communities to Anomalously Warm Sea Temperatures on a High-Latitude Coral Reef. PLoS ONE, 2014, 9, e113079.	2.5	37
39	Multimodal learning for autonomous underwater vehicles from visual and bathymetric data. , 2014, , .		7
40	Multi-vehicle localisation with additive compressed factor graphs. , 2014, , .		5
41	Crowdsourced saliency for mining robotically gathered 3D maps using multitouch interaction on smartphones and tablets. , 2014, , .		1
42	Special Issue on Robotics: Science and Systems 2013. International Journal of Robotics Research, 2014, 33, 1165-1166.	8.5	0
43	Filling the gaps: Predicting the distribution of temperate reef biota using high resolution biological and acoustic data. Estuarine, Coastal and Shelf Science, 2014, 147, 137-147.	2.1	38
44	Frequency-based underwater terrain segmentation. Autonomous Robots, 2013, 35, 255-269.	4.8	2
45	An Analysis of Monochrome Conversions and Normalizations on the Local Binary Patterns Texture Descriptors. , 2013, , .		3
46	Out-of-Core Efficient Blending for Underwater Georeferenced Textured 3D Maps. , 2013, , .		15
47	Autonomous exploration of large-scale benthic environments. , 2013, , .		15
48	Multidimensional (MD) Circuits and Systems for Emerging Applications Including Cognitive Radio, Radio Astronomy, Robot Vision and Imaging. IEEE Circuits and Systems Magazine, 2013, 13, 10-43.	2.3	44
49	Synergistic Clustering of Image and Segment Descriptors for Unsupervised Scene Understanding. , 2013, , .		4
50	Automated registration for multi-year robotic surveys of marine benthic habitats. , 2013, , .		23
51	Decoding, Calibration and Rectification for Lenselet-Based Plenoptic Cameras. , 2013, , .		389
52	Dynamic spectral-based underwater colour correction. , 2013, , .		13
53	Automatic spectrometer/RGB camera spatial calibration. , 2013, , .		4
54	Light field image denoising using a linear 4D frequency-hyperfan all-in-focus filter. Proceedings of SPIE, 2013, , .	0.8	41

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55	Spectral characterization of COTS RGB cameras using a linear variable edge filter. Proceedings of SPIE, 2013, , .	0.8	14
56	Regional-scale benthic monitoring for ecosystem-based fisheries management (EBFM) using an autonomous underwater vehicle (AUV). ICES Journal of Marine Science, 2012, 69, 1108-1118.	2.5	54
57	Bathymetric particle filter SLAM using trajectory maps. International Journal of Robotics Research, 2012, 31, 1409-1430.	8.5	49
58	Habitats and Benthos at Hydrographers Passage, Great Barrier Reef, Australia. , 2012, , 425-434.		3
59	Robust broad-scale benthic habitat mapping when training data is scarce. , 2012, , .		1
60	Classification with probabilistic targets. , 2012, , .		5
61	Model predictive control of an autonomous underwater vehicle in an in situ estimated water current profile. , 2012, , .		23
62	Multi-Scale Measures of Rugosity, Slope and Aspect from Benthic Stereo Image Reconstructions. PLoS ONE, 2012, 7, e50440.	2.5	115
63	Monitoring of Benthic Reference Sites: Using an Autonomous Underwater Vehicle. IEEE Robotics and Automation Magazine, 2012, 19, 73-84.	2.0	153
64	Bundle adjustment in large-scale 3D reconstructions based on underwater robotic surveys. , 2011, , .		20
65	Variability in mesophotic coral reef communities along the Great Barrier Reef, Australia. Marine Ecology - Progress Series, 2011, 428, 63-75.	1.9	81
66	Topography, substratum and benthic macrofaunal relationships on a tropical mesophotic shelf margin, central Great Barrier Reef, Australia. Coral Reefs, 2011, 30, 143-153.	2.2	88
67	A featureless approach to efficient bathymetric SLAM using distributed particle mapping. Journal of Field Robotics, 2011, 28, 19-39.	6.0	64
68	Seabed modeling and distractor extraction for mobile AUVs using light field filtering. , 2011, , .		9
69	Reconstructing pavlopetri: Mapping the world's oldest submerged town using stereo-vision. , 2011, , .		20
70	Water column current profile aided localisation combined with view-based SLAM for Autonomous Underwater Vehicle navigation. , 2011, , .		11
71	Analysis of Propulsion Methods for Long-Range AUVs. Marine Technology Society Journal, 2010, 44, 46-55.	0.4	6
72	Generation and visualization of large‐scale three‐dimensional reconstructions from underwater robotic surveys. Journal of Field Robotics, 2010, 27, 21-51.	6.0	229

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73	Autonomous underwater vehicleâ€"assisted surveying of drowned reefs on the shelf edge of the Great Barrier Reef, Australia. Journal of Field Robotics, 2010, 27, 675-697.	6.0	62
74	Editorial: Visual navigation and mapping outdoors. Journal of Field Robotics, 2010, 27, 509-510.	6.0	1
75	Toward adaptive benthic habitat mapping using gaussian process classification. Journal of Field Robotics, 2010, 27, 741-758.	6.0	24
76	Towards autonomous habitat classification using Gaussian Mixture Models. , 2010, , .		21
77	Adaptive exploration of benthic habitats using Gaussian processes. , 2010, , .		3
78	Predictive habitat models from AUV-based multibeam and optical imagery. , 2010, , .		5
79	Repeated AUV surveying of urchin barrens in North Eastern Tasmania. , 2010, , .		18
80	Saliency ranking for benthic survey using underwater images. , 2010, , .		6
81	A Monte Carlo Update for Parametric POMDPs. Springer Tracts in Advanced Robotics, 2010, , 213-223.	0.4	8
82	Surveying noctural cuttlefish camouflage behaviour using an AUV. , 2009, , .		15
83	An efficient approach to bathymetric SLAM. , 2009, , .		44
84	Simultaneous Localisation and Mapping and Dense Stereoscopic Seafloor Reconstruction Using an AUV. Springer Tracts in Advanced Robotics, 2009, , 407-416.	0.4	31
85	Topic-based habitat classification using visual data. , 2009, , .		13
86	AUV-assisted surveying of relic reef sites. , 2008, , .		13
87	Efficient View-Based SLAM Using Visual Loop Closures. IEEE Transactions on Robotics, 2008, 24, 1002-1014.	10.3	143
88	Towards image-based marine habitat classification. , 2008, , .		29
89	Fish-Bird: Cross-Disciplinary Collaboration. IEEE MultiMedia, 2008, 15, 10-12.	1.7	4
90	Effective Benthic Surveying with Autonomous Underwater Vehicles. , 2007, , .		6

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91	Orca: A Component Model and Repository. , 2007, , 231-251.		63
92	Parametric POMDPs for planning in continuous state spaces. Robotics and Autonomous Systems, 2006, 54, 887-897.	5.1	62
93	Operators as information sources in sensor networks. , 2005, , .		12
94	Towards component-based robotics. , 2005, , .		134
95	Adaptive human sensor model in sensor networks. , 2005, , .		9
96	A behavior-based architecture for autonomous underwater exploration. Information Sciences, 2002, 145, 69-87.	6.9	38
97	Map Management for Efficient Simultaneous Localization and Mapping (SLAM). Autonomous Robots, 2002, 12, 267-286.	4.8	65
98	Towards terrain-aided navigation for underwater robotics. Advanced Robotics, 2001, 15, 533-549.	1.8	83
99	Autonomous underwater navigation and control. Robotica, 2001, 19, 481-496.	1.9	36
100	Information based adaptive robotic exploration. , 0, , .		259
101	A Terrain-Aided Tracking Algorithm for Marine Systems. , 0, , 93-102.		12