Wolfram Burgard

List of Publications by Year
in descending order

403 papers	29,340 citations	57758 44 h-index	18647 119 g-index
417 all docs	417 docs citations	417 times ranked	15201 citing authors

#	Article	IF	Citations
1	Courteous Behavior of Automated Vehicles at Unsignalized Intersections Via Reinforcement Learning. IEEE Robotics and Automation Letters, 2022, 7, 191-198.	5.1	11
2	EfficientLPS: Efficient LiDAR Panoptic Segmentation. IEEE Transactions on Robotics, 2022, 38, 1894-1914.	10.3	30
3	Kineverse: A Symbolic Articulation Model Framework for Model-Agnostic Mobile Manipulation. IEEE Robotics and Automation Letters, 2022, 7, 3372-3379.	5.1	6
4	Correct Me If I am Wrong: Interactive Learning for Robotic Manipulation. IEEE Robotics and Automation Letters, 2022, 7, 3695-3702.	5.1	9
5	Vision-Based Autonomous UAV Navigation andÂLanding forÂUrban Search andÂRescue. Springer Proceedings in Advanced Robotics, 2022, , 575-592.	1.3	14
6	CALVIN: A Benchmark for Language-Conditioned Policy Learning for Long-Horizon Robot Manipulation Tasks. IEEE Robotics and Automation Letters, 2022, 7, 7327-7334.	5.1	16
7	Self-Supervised Moving Vehicle Detection From Audio-Visual Cues. IEEE Robotics and Automation Letters, 2022, 7, 7415-7422.	5.1	2
8	Affordance Learning from Play for Sample-Efficient Policy Learning. , 2022, , .		9
9	Robot Skill Adaptation via Soft Actor-Critic Gaussian Mixture Models. , 2022, , .		1
10	Robust Monocular Localization in Sparse HD Maps Leveraging Multi-Task Uncertainty Estimation. , 2022, , .		8
11	Building an Aerialâ€"Ground Robotics System for Precision Farming: An Adaptable Solution. IEEE Robotics and Automation Magazine, 2021, 28, 29-49.	2.0	45
12	Localization for precision navigation in agricultural fieldsâ€"Beyond crop row following. Journal of Field Robotics, 2021, 38, 429-451.	6.0	41
13	Long-term vehicle localization in urban environments based on pole landmarks extracted from 3-D lidar scans. Robotics and Autonomous Systems, 2021, 136, 103709.	5.1	16
14	Self-Supervised Visual Terrain Classification From Unsupervised Acoustic Feature Learning. IEEE Transactions on Robotics, 2021, 37, 466-481.	10.3	42
15	Lane Graph Estimation for Scene Understanding in Urban Driving. IEEE Robotics and Automation Letters, 2021, 6, 8615-8622.	5.1	12
16	Composing Pick-and-Place Tasks by Grounding Language. Springer Proceedings in Advanced Robotics, 2021, , 491-501.	1.3	8
17	Holistic Filter Pruning for Efficient Deep Neural Networks. , 2021, , .		11
18	Real-Time Outdoor Illumination Estimation for Camera Tracking in Indoor Environments. IEEE Robotics and Automation Letters, 2021, 6, 6084-6091.	5.1	1

#	Article	IF	Citations
19	Self-Supervised Model Adaptation for Multimodal Semantic Segmentation. International Journal of Computer Vision, 2020, 128, 1239-1285.	15.6	133
20	Adversarial Skill Networks: Unsupervised Robot Skill Learning from Video. , 2020, , .		15
21	Predicting Obstacle Footprints from 2D Occupancy Maps by Learning from Physical Interactions. , 2020, , .		2
22	DeepTemporalSeg: Temporally Consistent Semantic Segmentation of 3D LiDAR Scans. , 2020, , .		8
23	How to Keep HD Maps for Automated Driving Up To Date. , 2020, , .		36
24	A Robust Screen-Free Brain-Computer Interface for Robotic Object Selection. Frontiers in Robotics and AI, 2020, 7, 38.	3.2	1
25	Motion Biomarkers Showing Maximum Contrast Between Healthy Subjects and Parkinson's Disease Patients Treated With Deep Brain Stimulation of the Subthalamic Nucleus. A Pilot Study. Frontiers in Neuroscience, 2020, 13, 1450.	2.8	5
26	SYMOG: Learning symmetric mixture of Gaussian modes for improved fixed-point quantization. Neurocomputing, 2020, 416, 310-315.	5.9	5
27	Learning to Singulate Objects Using a Push Proposal Network. Springer Proceedings in Advanced Robotics, 2020, , 405-419.	1.3	38
28	Topometric Localization with Deep Learning. Springer Proceedings in Advanced Robotics, 2020, , 505-520.	1.3	15
29	Improving Unimodal Object Recognition with Multimodal Contrastive Learning. , 2020, , .		6
30	HeatNet: Bridging the Day-Night Domain Gap in Semantic Segmentation with Thermal Images. , 2020, , .		29
31	Hindsight for Foresight: Unsupervised Structured Dynamics Models from Physical Interaction. , 2020, , .		9
32	Multimodal interaction-aware motion prediction for autonomous street crossing. International Journal of Robotics Research, 2020, 39, 1567-1598.	8.5	17
33	Underwater Multi-modal Sensing for Environmental Mapping and Vehicle Navigation. Intelligent Systems, Control and Automation: Science and Engineering, 2020, , 137-144.	0.5	0
34	Novel Directions for Autonomous Underwater Vehicle Navigation in Confined Spaces. Intelligent Systems, Control and Automation: Science and Engineering, 2020, , 157-168.	0.5	0
35	Perspectives on Deep Multimodel Robot Learning. Springer Proceedings in Advanced Robotics, 2020, , 17-24.	1.3	5
36	Maneuver Planning and Learning: a Lane Selection Approach for Highly Automated Vehicles in Highway Scenarios.. , 2020, , .		0

#	ARTICLE	IF	CITATIONS
37	Learning Human-Aware Robot Navigation from Physical Interaction via Inverse Reinforcement Learning. , 2020, , .		16
38	PillarFlow: End-to-end Birds-eye-view Flow Estimation for Autonomous Driving. , 2020, , .		14
39	On the Bayes Filter for Shared Autonomy. IEEE Robotics and Automation Letters, 2019, 4, 3286-3293.	5.1	1
40	25th Anniversary of IEEE Robotics and Automation Magazine: From a Small Seed to a Great Plant [President's Message]. IEEE Robotics and Automation Magazine, 2019, 26, 6-6.	2.0	0
41	Long-Term Urban Vehicle Localization Using Pole Landmarks Extracted from 3-D Lidar Scans. , 2019, , .		46
42	HD Map Change Detection with a Boosted Particle Filter. , 2019, , .		25
43	Modeling and Planning Manipulation in Dynamic Environments. , 2019, , .		24
44	Augmenting Action Model Learning by Non-Geometric Features. , 2019, , .		2
45	A Maximum Likelihood Approach to Extract Finite Planes from 3-D Laser Scans. , 2019, , .		5
46	State Estimation in Contact-Rich Manipulation. , 2019, , .		13
47	Hybrid Brain-Computer-Interfacing for Human-Compliant Robots: Inferring Continuous Subjective Ratings With Deep Regression. Frontiers in Neurorobotics, 2019, 13, 76.	2.8	3
48	Deep 3D perception of people and their mobility aids. Robotics and Autonomous Systems, 2019, 114, 29-40.	5.1	24
49	Editorial: Shared Autonomyâ€" Learning of Joint Action and Human-Robot Collaboration. Frontiers in Neurorobotics, 2019, 13, 16.	2.8	7
50	A service assistant combining autonomous robotics, flexible goal formulation, and deep-learning-based brainâ€"computer interfacing. Robotics and Autonomous Systems, 2019, 116, 98-113.	5.1	38
51	Diversity, Inclusiveness, and Respect [President's Message]. IEEE Robotics and Automation Magazine, 2019, 26, 6-6.	2.0	0
52	VR-Goggles for Robots: Real-to-Sim Domain Adaptation for Visual Control. IEEE Robotics and Automation Letters, 2019, 4, 1148-1155.	5.1	57
53	Accurate Pouring with an Autonomous Robot Using an RGB-D Camera. Advances in Intelligent Systems and Computing, 2019, , 210-221.	0.6	9
54	Influence of User Tasks on EEG-based Classification Performance in a Hazard Detection Paradigm. , 2019, 2019, 6758-6761.		1

#	Article	IF	Citations
55	Lane Marking Learning based on Crowdsourced Data. , 2019, , .		8
56	Today's Youth Are Our Future Leaders [President's Message]. IEEE Robotics and Automation Magazine, 2019, 26, 6-130.	2.0	0
57	Self-supervised 3D Shape and Viewpoint Estimation from Single Images for Robotics. , 2019, , .		12
58	Open Access: How Best to Prepare to Master This Challenge [President's Message]. IEEE Robotics and Automation Magazine, 2019, 26, 6-6.	2.0	0
59	Self-supervised Transfer Learning for Instance Segmentation through Physical Interaction. , 2019, , .		12
60	Robust, Compliant Assembly with Elastic Parts and Model Uncertainty. , 2019, , .		2
61	Combined Task and Action Learning from Human Demonstrations for Mobile Manipulation Applications. , 2019, , .		9
62	Robot Localization in Floor Plans Using a Room Layout Edge Extraction Network. , 2019, , .		25
63	Planning Reactive Manipulation in Dynamic Environments. , 2019, , .		14
64	A pose graph-based localization system for long-term navigation in CAD floor plans. Robotics and Autonomous Systems, 2019, 112, 84-97.	5.1	33
65	The dynamics of error processing in the human brain as reflected by high-gamma activity in noninvasive and intracranial EEG. NeuroImage, 2018, 173, 564-579.	4.2	31
66	Predicting Occupancy Distributions of Walking Humans With Convolutional Neural Networks. IEEE Robotics and Automation Letters, 2018, 3, 1522-1528.	5.1	11
67	Towards efficient and scalable visual homing. International Journal of Robotics Research, 2018, 37, 225-248.	8.5	6
68	Robust Visual Localization Across Seasons. IEEE Transactions on Robotics, 2018, 34, 289-302.	10.3	101
69	DCT Maps: Compact Differentiable Lidar Maps Based on the Cosine Transform. IEEE Robotics and Automation Letters, 2018, 3, 1002-1009.	5.1	6
70	Detecting Changes in the Environment Based on Full Posterior Distributions Over Real-Valued Grid Maps. IEEE Robotics and Automation Letters, 2018, 3, 1299-1305.	5.1	7
71	Kooperativ interagierende Automobile. Automatisierungstechnik, 2018, 66, 81-99.	0.8	6
72	The limits and potentials of deep learning for robotics. International Journal of Robotics Research, 2018, 37, 405-420.	8.5	320

#	Article	IF	Citations
73	Deep transfer learning for error decoding from non-invasive EEG. , 2018, , .		28
74	Recursive decentralized localization for multi-robot systems with asynchronous pairwise communication. International Journal of Robotics Research, 2018, 37, 1152-1167.	8.5	50
75	The signature of robot action success in EEG signals of a human observer: Decoding and visualization using deep convolutional neural networks. , 2018, , .		28
76	Efficient and robust deep networks for semantic segmentation. International Journal of Robotics Research, 2018, 37, 472-491.	8.5	19
77	Deep Feature Learning for Acoustics-Based Terrain Classification. Springer Proceedings in Advanced Robotics, 2018, , 21-37.	1.3	35
78	Relative Topometric Localization in Globally Inconsistent Maps. Springer Proceedings in Advanced Robotics, 2018, , 435-451.	1.3	5
79	Learning to Pour using Deep Deterministic Policy Gradients. , 2018, , .		13
80	Guess What I Attend: Interface-Free Object Selection Using Brain Signals. , 2018, , .		9
81	Intracranial Error Detection via Deep Learning. , 2018, , .		5
82	Coupling Mobile Base and End-Effector Motion in Task Space. , 2018, , .		11
83	A Maximum Likelihood Approach to Extract Polylines from 2-D Laser Range Scans. , 2018, , .		9
84	Building Dense Reflectance Maps of Indoor Environments Using an RGB-D Camera. , 2018, , .		5
85	Cross-Paradigm Pretraining of Convolutional Networks Improves Intracranial EEG Decoding. , 2018, , .		7
86	VLocNet++: Deep Multitask Learning for Semantic Visual Localization and Odometry. IEEE Robotics and Automation Letters, 2018, 3, 4407-4414.	5.1	154
87	Courtesy Behavior for Highly Automated Vehicles on Highway Interchanges. , 2018, , .		7
88	Learning a Local Feature Descriptor for 3D LiDAR Scans. , 2018, , .		16
89	A Great New RAS Team Taking the Next Step in Exciting Times [Presdident's Message]. IEEE Robotics and Automation Magazine, 2018, 25, 6-8.	2.0	0
90	The IEEE Robotics and Automation Society Is Working Well Even in Difficult Times [President's Message]. IEEE Robotics and Automation Magazine, 2018, 25, 6-6.	2.0	0

#	Article	IF	Citations
91	Socially Compliant Navigation Through Raw Depth Inputs with Generative Adversarial Imitation Learning. , 2018, , .		102
92	3D Human Pose Estimation in RGBD Images for Robotic Task Learning. , 2018, , .		97
93	Optimization Beyond the Convolution: Generalizing Spatial Relations with End-to-End Metric Learning. , 2018, , .		9
94	Whole-Body Sensory Concept for Compliant Mobile Robots. , 2018, , .		7
95	Robust, Compliant Assembly via Optimal Belief Space Planning. , 2018, , .		14
96	DPDB-Net: Exploiting Dense Connections for Convolutional Encoders. , 2018, , .		2
97	Mapping with Dynamic-Object Probabilities Calculated from Single 3D Range Scans. , 2018, , .		20
98	Deep Auxiliary Learning for Visual Localization and Odometry. , 2018, , .		150
99	Crop Row Detection on Tiny Plants With the Pattern Hough Transform. IEEE Robotics and Automation Letters, 2018, 3, 3394-3401.	5.1	74
100	New Challenges for the IEEE Robotics and Automation Society [President's Message]. IEEE Robotics and Automation Magazine, 2018, 25, 6-6.	2.0	1
101	The Role of Robot Design in Decoding Error-related Information from EEG Signals of a Human Observer. , 2018, , .		0
102	An accurate and efficient navigation system for omnidirectional robots in industrial environments. Autonomous Robots, 2017, 41, 473-493.	4.8	54
103	An Analytical Lidar Sensor Model Based on Ray Path Information. IEEE Robotics and Automation Letters, 2017, 2, 1405-1412.	5.1	19
104	Shakey 2016 - How Much Does it Take to Redo Shakey the Robot?. IEEE Robotics and Automation Letters, 2017, , 1-1.	5.1	3
105	Closed-loop interaction with the cerebral cortex using a novel micro-ECoG-based implant: the impact of beta vs. gamma stimulation frequencies on cortico-cortical spectral responses. Brain-Computer Interfaces, 2017, 4, 214-224.	1.8	8
106	Decoding Perceived Hazardousness from User's Brain States to Shape Human-Robot Interaction. , 2017, , .		3
107	Deep spatiotemporal models for robust proprioceptive terrain classification. International Journal of Robotics Research, 2017, 36, 1521-1539.	8.5	44
108	Agricultural robot dataset for plant classification, localization and mapping on sugar beet fields. International Journal of Robotics Research, 2017, 36, 1045-1052.	8.5	195

#	Article	IF	Citations
109	AdapNet: Adaptive semantic segmentation in adverse environmental conditions. , 2017, , .		120
110	Efficient path planning for mobile robots with adjustable wheel positions. , 2017, , .		6
111	Optimal, sampling-based manipulation planning. , 2017, , .		33
112	Deep learning with convolutional neural networks for EEG decoding and visualization. Human Brain Mapping, 2017, 38, 5391-5420.	3.6	1,656
113	Maneuver planning for highly automated vehicles. , 2017, , .		7
114	Closed-form full map posteriors for robot localization with lidar sensors. , 2017, , .		6
115	Vision-based Markov localization for long-term autonomy. Robotics and Autonomous Systems, 2017, 89, 147-157.	5.1	15
116	Navigating blind people with walking impairments using a smart walker. Autonomous Robots, 2017, 41, 555-573.	4.8	47
117	Metric learning for generalizing spatial relations to new objects. , 2017, , .		18
118	SMSnet: Semantic motion segmentation using deep convolutional neural networks. , 2017, , .		41
119	Robot localization with sparse scan-based maps. , 2017, , .		6
120	Deep regression for monocular camera-based 6-DoF global localization in outdoor environments. , 2017, , .		77
121	An online system for tracking the performance of Parkinson's patients. , 2017, , .		4
122	Deep reinforcement learning with successor features for navigation across similar environments. , 2017, , .		161
123	Learning mobile manipulation actions from human demonstrations. , 2017, , .		24
124	Deep semantic classification for 3D LiDAR data. , 2017, , .		41
125	Robust LiDAR-based localization in architectural floor plans. , 2017, , .		31
126	Why did the robot cross the road? â€" Learning from multi-modal sensor data for autonomous road crossing. , 2017, , .		5

#	ARTICLE	IF	CITATIONS
127	Semantics-aware visual localization under challenging perceptual conditions. , 2017, , .		82
128	Global outer-urban navigation with OpenStreetMap. , 2017, , .		18
129	Acting thoughts: Towards a mobile robotic service assistant for users with limited communication skills. , 2017, , .		22
130	Deep Detection of People and their Mobility Aids for a Hospital Robot. , 2017, , .		20
131	Correlations between Motor Symptoms across Different Motor Tasks, Quantified via Random Forest Feature Classification in Parkinson's Disease. Frontiers in Neurology, 2017, 8, 607.	2.4	20
132	Deep Multispectral Semantic Scene Understanding of Forested Environments Using Multimodal Fusion. Springer Proceedings in Advanced Robotics, 2017, , 465-477.	1.3	56
133	Motion-based detection and tracking in 3D LiDAR scans. , 2016, , .		109
134	Do you see the bakery? Leveraging geo-referenced texts for global localization in public maps. , 2016, , .		18
135	Automatic bone parameter estimation for skeleton tracking in optical motion capture. , 2016, , .		11
136	Organizing objects by predicting user preferences through collaborative filtering. International Journal of Robotics Research, 2016, 35, 1587-1608.	8.5	6
137	Choosing smartly: Adaptive multimodal fusion for object detection in changing environments. , 2016, , .		67
138	Rigid scene flow for 3D LiDAR scans. , 2016, , .		66
139	Automatic channel selection in neural microprobes: A combinatorial multi-armed bandit approach. , 2016, , .		0
140	A probabilistic approach based on Random Forests to estimating similarity of human motion in the context of Parkinson's Disease. , 2016, , .		3
141	Monocular camera localization in 3D LiDAR maps. , 2016, , .		97
142	A probabilistic approach to liquid level detection in cups using an RGB-D camera. , 2016, , .		29
143	Terrain-adaptive obstacle detection. , 2016, , .		11
144	BI^{2}RRT*: An efficient sampling-based path planning framework for task-constrained mobile manipulation. , 2016, , .		42

#	Article	IF	Citations
145	Learning manipulation actions from human demonstrations. , 2016, , .		14
146	Efficient deep models for monocular road segmentation. , 2016, , .		146
147	New Perspectives on Neuroengineering and Neurotechnologies: NSF-DFG Workshop Report. IEEE Transactions on Biomedical Engineering, 2016, 63, 1354-1367.	4.2	23
148	Self-Calibration of Accelerometer Arrays. IEEE Transactions on Instrumentation and Measurement, 2016, 65, 1913-1925.	4.7	31
149	World Modeling. Springer Handbooks, 2016, , 1135-1152.	0.6	9
150	Deep learning for human part discovery in images. , 2016, , .		57
151	Autonomous indoor robot navigation using a sketch interface for drawing maps and routes. , 2016, , .		30
152	Speeding-Up Robot Exploration by Exploiting Background Information. IEEE Robotics and Automation Letters, 2016, 1, 716-723.	5.1	55
153	Socially compliant mobile robot navigation via inverse reinforcement learning. International Journal of Robotics Research, 2016, 35, 1289-1307.	8.5	292
154	Sensor fusion in the epistemic situation calculus. Journal of Experimental and Theoretical Artificial Intelligence, 2016, 28, 871-887.	2.8	0
155	An Experimental Protocol for Benchmarking Robotic Indoor Navigation. Springer Tracts in Advanced Robotics, 2016, , 487-504.	0.4	20
156	Nonlinear factor recovery for long-term SLAM. International Journal of Robotics Research, 2016, 35, 50-72.	8.5	39
157	Learning High-Level Navigation Strategies via Inverse Reinforcement Learning: A Comparative Analysis. Lecture Notes in Computer Science, 2016, , 525-534.	1.3	1
158	LexTOR: Lexicographic teach optimize and repeat based on user preferences. , 2015, , .		3
159	Maximum likelihood remission calibration for groups of heterogeneous laser scanners. , 2015, , .		4
160	3D-reconstruction of indoor environments from human activity. , 2015, , .		1
161	Localization on OpenStreetMap data using a 3D laser scanner. , 2015, , .		57
162	Accurate indoor localization for RGB-D smartphones and tablets given 2D floor plans. , 2015, , .		44

#	ARTICLE	IF	CITATIONS
163	Trail-Map-based homing under the presence of sensor noise. , 2015, , .		1
164	A comparative study of contact models for contact-aware state estimation. , 2015, , .		7
165	Robust visual SLAM across seasons. , 2015, , .		55
166	Accurate localization with respect to moving objects via multiple-body registration. , 2015, , .		4
167	Learning driving styles for autonomous vehicles from demonstration. , 2015, , .		270
168	Multimodal deep learning for robust RGB-D object recognition. , 2015, , .		391
169	Automatic extrinsic calibration of multiple laser range sensors with little overlap. , 2015, , .		5
170	Vision-based Markov localization across large perceptual changes. , 2015, , .		10
171	Time dependent planning on a layered social cost map for human-aware robot navigation. , 2015, , .		51
172	Robot navigation in hand-drawn sketched maps. , 2015, , .		19
173	Attitude stabilization control of an aerial manipulator using a quaternion-based backstepping approach. , 2015, , .		19
174	Inverse reinforcement learning of behavioral models for online-adapting navigation strategies. , 2015, , .		21
175	Metric localization using Google Street View. , 2015, , .		42
176	Learning motor control parameters for motion strategy analysis of Parkinson's disease patients. , 2015, , .		3
177	Monte Carlo localization in hand-drawn maps. , 2015, , .		15
178	Traversability analysis for mobile robots in outdoor environments: A semi-supervised learning approach based on 3D-lidar data. , 2015, , .		61
179	Navigating blind people with a smart walker. , 2015, , .		25
180	Autonomous Robot Navigation in Highly Populated Pedestrian Zones. Journal of Field Robotics, 2015, 32, 565-589.	6.0	83

#	Article	IF	Citations
181	Robot, organize my shelves! Tidying up objects by predicting user preferences. , 2015, , .		38
182	Efficient and effective matching of image sequences under substantial appearance changes exploiting GPS priors. , 2015, , .		27
183	An autonomous robotic assistant for drinking. , 2015, , .		42
184	Where to park? minimizing the expected time to find a parking space. , 2015, , .		9
185	Automatic initialization for skeleton tracking in optical motion capture. , 2015, , .		19
186	An Approach to Socially Compliant Leader Following for Mobile Robots. Lecture Notes in Computer Science, 2014, , 239-248.	1.3	12
187	Online marker labeling for fully automatic skeleton tracking in optical motion capture. , 2014, , .		25
188	An approach to solving large-scale SLAM problems with a small memory footprint. , 2014, , .		19
189	Learning to give route directions from human demonstrations. , 2014, , .		8
190	Inferring what to imitate in manipulation actions by using a recommender system. , 2014, , .		2
191	Online generation of homotopically distinct navigation paths. , 2014, , .		24
192	Reconstruction of rigid body models from motion distorted laser range data using optical flow. , 2014, , .		4
193	A statistical measure for map consistency in SLAM. , 2014, , .		19
194	Experimental analysis of dynamic covariance scaling for robust map optimization under bad initial estimates. , 2014, , .		17
195	A probabilistic approach to high-confidence cleaning guarantees for low-cost cleaning robots. , 2014, , .		21
196	Helmert's and Bowie's geodetic mapping methods and their relation to graph-based SLAM. , 2014, , .		2
197	Hierarchical sparse coded surface models. , 2014, , .		4
198	Automatic channel selection and neural signal estimation across channels of neural probes. , 2014, , .		2

#	Article	IF	Citations
199	A catadioptric extension for RGB-D cameras. , 2014, , .		10
200	3-D Mapping With an RGB-D Camera. IEEE Transactions on Robotics, 2014, 30, 177-187.	10.3	662
201	W-RGB-D: Floor-plan-based indoor global localization using a depth camera and WiFi. , 2014, , .		47
202	Learning to predict trajectories of cooperatively navigating agents. , 2014, , .		53
203	Survey of Geodetic Mapping Methods: Geodetic Approaches to Mapping and the Relationship to Graph-Based SLAM. IEEE Robotics and Automation Magazine, 2014, 21, 63-80.	2.0	15
204	Identifying vegetation from laser data in structured outdoor environments. Robotics and Autonomous Systems, 2014, 62, 675-684.	5.1	27
205	Learning object deformation models for robot motion planning. Robotics and Autonomous Systems, 2014, 62, 1153-1174.	5.1	27
206	Identification of critical variables using an FPGA-based fault injection framework. , 2013, , .		3
207	A Wireless Micro Inertial Measurement Unit (IMU). IEEE Transactions on Instrumentation and Measurement, 2013, 62, 2583-2595.	4.7	87
208	Effective landmark placement for accurate and reliable mobile robot navigation. Robotics and Autonomous Systems, 2013, 61, 1060-1069.	5.1	33
209	OctoMap: an efficient probabilistic 3D mapping framework based on octrees. Autonomous Robots, 2013, 34, 189-206.	4.8	1,932
210	Poisson-driven dirt maps for efficient robot cleaning. , 2013, , .		8
211	Efficient grid-based spatial representations for robot navigation in dynamic environments. Robotics and Autonomous Systems, 2013, 61, 1116-1130.	5.1	99
212	Efficient probabilistic localization for autonomous indoor airships using sonar, air flow, and IMU sensors. Advanced Robotics, 2013, 27, 711-724.	1.8	15
213	Coordinating heterogeneous teams of robots using temporal symbolic planning. Autonomous Robots, 2013, 34, 277-294.	4.8	27
214	Robust map optimization using dynamic covariance scaling. , 2013, , .		175
215	Teaching mobile robots to cooperatively navigate in populated environments. , 2013, , .		39
216	Learning to guide random tree planners in high dimensional spaces. , 2013, , .		5

#	Article	IF	Citations
217	Efficient navigation for anyshape holonomic mobile robots in dynamic environments. , 2013, , .		5
218	Geometrical FLIRT phrases for large scale place recognition in 2D range data. , 2013, , .		37
219	Cooperative robot localization and target tracking based on least squares minimization. , 2013, , .		50
220	Lidar-based teach-and-repeat of mobile robot trajectories. , 2013, , .		25
221	Lifelong localization in changing environments. International Journal of Robotics Research, 2013, 32, 1662-1678.	8.5	90
222	Learning the dynamics of doors for robotic manipulation. , 2013, , .		11
223	Deploying artificial landmarks to foster data association in simultaneous localization and mapping. , 2013, , .		8
224	Robust landmark selection for mobile robot navigation. , 2013, , .		13
225	A navigation system for robots operating in crowded urban environments. , 2013, , .		47
226	Simultaneous Parameter Calibration, Localization, and Mapping. Advanced Robotics, 2012, 26, 2021-2041.	1.8	34
227	Null space optimization for effective coverage of 3D surfaces using redundant manipulators. , 2012, , .		37
228	On the position accuracy of mobile robot localization based on particle filters combined with scan matching. , 2012, , .		85
229	A benchmark for the evaluation of RGB-D SLAM systems. , 2012, , .		2,188
230	Onlineâˇ6D-SLAM fÃ¼r RGB-D-Sensoren. Automatisierungstechnik, 2012, 60, 270-278.	0.8	6
231	Highly accurate 3D surface models by sparse surface adjustment. , 2012, , .		25
232	A Fully Autonomous Indoor Quadrotor. IEEE Transactions on Robotics, 2012, 28, 90-100.	10.3	358
233	Activity-Based Estimation of Human Trajectories. IEEE Transactions on Robotics, 2012, 28, 234-245.	10.3	30
234	Improved non-linear spline fitting for teaching trajectories to mobile robots. , 2012, , .		8

#	Article	IF	Citations
235	Robust tracking of a mobile beacon using time differences of arrival with simultaneous calibration of receiver positions. , 2012, , .		16
236	Probabilistic velocity estimation for autonomous miniature airships using thermal air flow sensors. , 2012, , .		4
237	Fully distributed scalable smoothing and mapping with robust multi-robot data association. , 2012, , .		74
238	An evaluation of the RGB-D SLAM system. , 2012, , .		493
239	Range-Based People Detection and Tracking for Socially Enabled Service Robots. Springer Tracts in Advanced Robotics, 2012, , 235-280.	0.4	21
240	Rule Set Based Joint State Update. Springer Tracts in Advanced Robotics, 2012, , 301-326.	0.4	0
241	Online generation of kinodynamic trajectories for non-circular omnidirectional robots. , 2011, , .		34
242	G<sup>2</sup>o: A general framework for graph optimization. , 2011, , .		1,240
243	Efficient motion planning for manipulation robots in environments with deformable objects. , 2011, , .		23
244	Tactile Sensing for Mobile Manipulation. IEEE Transactions on Robotics, 2011, 27, 558-568.	10.3	93
245	Towards Palm-Size Autonomous Helicopters. Journal of Intelligent and Robotic Systems: Theory and Applications, 2011, 61, 445-471.	3.4	12
246	Large scale graph-based SLAM using aerial images as prior information. Autonomous Robots, 2011, 30, 25-39.	4.8	105
247	Probabilistic State Estimation Techniques for Autonomous and Decision Support Systems. Informatik-Spektrum, 2011, 34, 455-461.	1.3	1
248	Learning search heuristics for finding objects in structured environments. Robotics and Autonomous Systems, 2011, 59, 319-328.	5.1	20
249	Place recognition in 3D scans using a combination of bag of words and point feature based relative pose estimation. , 2011, , .		71
250	Range sensor based model construction by sparse surface adjustment. , 2011, , .		3
251	Accurate human motion capture in large areas by combining IMU- and laser-based people tracking. , 2011, , .		22
252	Autonomous miniature blimp navigation with online motion planning and re-planning. , 2011, , .		6

#	Article	IF	Citations
253	Using artificial landmarks to reduce the ambiguity in the environment of a mobile robot. , 2011, , .		22
254	Highly accurate maximum likelihood laser mapping by jointly optimizing laser points and robot poses. , 2011, , .		13
255	Point feature extraction on 3D range scans taking into account object boundaries. , 2011, , .		193
256	Near-optimal landmark selection for mobile robot navigation. , 2011, , .		15
257	Simultaneous calibration, localization, and mapping. , 2011, , .		34
258	Accurate human motion capture in large areas by combining IMU- and laser-based people tracking. , 2011, , .		5
259	Efficient information-theoretic graph pruning for graph-based SLAM with laser range finders. , 2011, , .		1
260	Simultaneous calibration, localization, and mapping. , 2011, , .		1
261	Learning Landmark Selection Policies for Mapping Unknown Environments. Springer Tracts in Advanced Robotics, 2011, , 483-499.	0.4	0
262	Autonomous miniature blimp navigation with online motion planning and re-planning. , 2011, , .		0
263	Pitch and roll control using independent movable floats for small underwater robots. , 2011, , .		0
264	Maximum-likelihood sample-based maps for mobile robots. Robotics and Autonomous Systems, 2010, 58, 133-139.	5.1	9
265	Multi-model Hypothesis Group Tracking and Group Size Estimation. International Journal of Social Robotics, 2010, 2, 19-30.	4.6	56
266	A Tutorial on Graph-Based SLAM. IEEE Intelligent Transportation Systems Magazine, 2010, 2, 31-43.	3.8	897
267	Editorial: Three‑dimensional mapping, part 3. Journal of Field Robotics, 2010, 27, 1-1.	6.0	2
268	Improved updating of Euclidean distance maps and Voronoi diagrams. , 2010, , .		52
269	Recognizing people based on their footsteps using a wearable accelerometer. , 2010, , .		1
270	Improved Monte Carlo localization of autonomous robots through simultaneous estimation of motion model parameters. , 2010, , .		6

#	Article	IF	Citations
271	Unsupervised learning of compact 3D models based on the detection of recurrent structures. , 2010, , .		15
272	Efficient Sparse Pose Adjustment for 2D mapping. , 2010, , .		251
273	Temporary maps for robust localization in semi-static environments. , 2010, , .		47
274	Mapping indoor environments based on human activity. , 2010, , .		19
275	Learning the elasticity parameters of deformable objects with a manipulation robot. , 2010, , .		48
276	Consistent mapping of multistory buildings by introducing global constraints to graph-based SLAM. , 2010, , .		14
277	Searching for objects: Combining multiple cues to object locations using a maximum entropy model. , 2010, , .		14
278	Robust place recognition for 3D range data based on point features. , 2010, , .		90
279	Coordinated exploration with marsupial teams of robots using temporal symbolic planning. , 2010, , .		12
280	Probabilistic Rule Set Joint State Update as approximation to the full joint state estimation applied to multi object scene analysis. , 2010, , .		9
281	Operating articulated objects based on experience. , 2010, , .		30
282	Vision-based detection for learning articulation models of cabinet doors and drawers in household environments. , 2010, , .		24
283	Improving RFID-based indoor positioning accuracy using Gaussian processes. , 2010, , .		39
284	Gaussian process based state estimation for a gyroscope-free IMU. , 2010, , .		5
285	Semantic Modelling of Space. Cognitive Systems Monographs, 2010, , 165-221.	0.1	10
286	Learning Non-stationary System Dynamics Online Using Gaussian Processes. Lecture Notes in Computer Science, 2010, , 192-201.	1.3	9
287	Planning and Failure Detection. Cognitive Systems Monographs, 2010, , 223-264.	0.1	0
288	Towards Palm-Size Autonomous Helicopters. , 2010, , 445-471.		1

#	Article	IF	Citations
289	Kinodynamic motion planning for mobile robots using splines. , 2009, , .		95
290	Which landmark is useful? Learning selection policies for navigation in unknown environments. , 2009, , .		33
291	Learning efficient policies for vision-based navigation. , 2009, , .		5
292	Probabilistic situation recognition for vehicular traffic scenarios. , 2009, , .		47
293	Unsupervised learning of 3D object models from partial views. , 2009, , .		21
294	Regression-based online situation recognition for vehicular traffic scenarios. , 2009, , .		6
295	A comparison of SLAM algorithms based on a graph of relations. , 2009, , .		87
296	Adaptive autonomous control using online value iteration with gaussian processes. , 2009, , .		10
297	Robust on-line model-based object detection from range images. , 2009, , .		28
298	Tracking groups of people with a multi-model hypothesis tracker. , 2009, , .		24
299	Object identification with tactile sensors using bag-of-features. , 2009, , .		156
300	Imitation learning with generalized task descriptions. , 2009, , .		25
301	A visual odometry framework robust to motion blur. , 2009, , .		56
302	Look-ahead Proposals for Robust Grid-based SLAM with Rao-Blackwellized Particle Filters. International Journal of Robotics Research, 2009, 28, 191-200.	8.5	13
303	Wireless communications in networked robotics [Guest editorial. IEEE Wireless Communications, 2009, 16, 4-5.	9.0	16
304	Learning Kinematics from Direct Self-Observation Using Nearest-Neighbor Methods. , 2009, , 11-20.		3
305	Body schema learning for robotic manipulators from visual self-perception. Journal of Physiology (Paris), 2009, 103, 220-231.	2.1	43
306	Classifying dynamic objects. Autonomous Robots, 2009, 26, 141-151.	4.8	16

#	Article	IF	Citations
307	A Bayesian regression approach to terrain mapping and an application to legged robot locomotion. Journal of Field Robotics, 2009, 26, 789-811.	6.0	26
308	Editorial: Three‐dimensional mapping, part 1. Journal of Field Robotics, 2009, 26, 757-758.	6.0	2
309	Editorial: Three‐dimensional mapping, part 2. Journal of Field Robotics, 2009, 26, 863-864.	6.0	0
310	Towards a navigation system for autonomous indoor flying. , 2009, , .		186
311	Utilizing reflection properties of surfaces to improve mobile robot localization. , 2009, , .		9
312	Nonlinear Constraint Network Optimization for Efficient Map Learning. IEEE Transactions on Intelligent Transportation Systems, 2009, 10, 428-439.	8.0	186
313	Modeling RFID signal strength and tag detection for localization and mapping. , 2009, , .		91
314	Real-world robot navigation amongst deformable obstacles. , 2009, , .		6
315	Autonomous driving in a multi-level parking structure. , 2009, , .		71
316	A probabilistic sonar sensor model for robust localization of a small-size blimp in indoor environments using a particle filter. , 2009, , .		18
317	Improving robot navigation in structured outdoor environments by identifying vegetation from laser data. , 2009, , .		62
318	Efficient exploration of unknown indoor environments using a team of mobile robots. Annals of Mathematics and Artificial Intelligence, 2008, 52, 205-227.	1.3	51
319	Monte Carlo localization in outdoor terrains using multilevel surface maps. Journal of Field Robotics, 2008, 25, 346-359.	6.0	67
320	Conceptual spatial representations for indoor mobile robots. Robotics and Autonomous Systems, 2008, 56, 493-502.	5.1	232
321	Nonstationary Gaussian Process Regression Using Point Estimates of Local Smoothness. Lecture Notes in Computer Science, 2008, , 204-219.	1.3	53
322	Probabilistic Approaches to Robot Navigation [Position]. IEEE Robotics and Automation Magazine, 2008, 15, 8-13.	2.0	1
323	World Modeling. , 2008, , 853-869.		26
324	Look-Ahead Proposals for Robust Grid-Based SLAM. Springer Tracts in Advanced Robotics, 2008, , 329-338.	0.4	0

#	Article	IF	Citations
325	Visual SLAM for Flying Vehicles. IEEE Transactions on Robotics, 2008, 24, 1088-1093.	10.3	63
326	Coordinated multi-robot exploration using a segmentation of the environment. , 2008, , .		161
327	Efficiently learning high-dimensional observation models for Monte-Carlo localization using Gaussian mixtures. , 2008, , .		5
328	Recognizing complex, parameterized gestures from monocular image sequences. , 2008, , .		11
329	Gaussian mixture models for probabilistic localization. , 2008, , .		15
330	Monocular range sensing: A non-parametric learning approach. , 2008, , .		12
331	Learning predictive terrain models for legged robot locomotion. , 2008, , .		48
332	Unsupervised body scheme learning through self-perception. , 2008, , .		23
333	Estimating landmark locations from geo-referenced photographs. , 2008, , .		4
334	How to learn accurate grid maps with a humanoid. , 2008, , .		13
335	Efficient people tracking in laser range data using a multi-hypothesis leg-tracker with adaptive occlusion probabilities. , 2008, , .		110
336	Efficient path planning for mobile robots in environments with deformable objects. , 2008, , .		9
337	Online constraint network optimization for efficient maximum likelihood map learning. , 2008, , .		49
338	Recovering the Shape of Objects in 3D Point Clouds with Partial Occlusions. Springer Tracts in Advanced Robotics, 2008, , 13-22.	0.4	2
339	Monte Carlo Localization in Outdoor Terrains Using Multi-Level Surface Maps. Springer Tracts in Advanced Robotics, 2008, , 213-222.	0.4	6
340	A Probabilistic Relational Model for Characterizing Situations in Dynamic Multi-Agent Systems. Studies in Classification, Data Analysis, and Knowledge Organization, 2008, , 269-276.	0.2	10
341	Collective Classification for Labeling of Places and Objects in 2D and 3D Range Data. Studies in Classification, Data Analysis, and Knowledge Organization, 2008, , 293-300.	0.2	2
342	Autonomous blimp control using model-free reinforcement learning in a continuous state and action space. , 2007, , .		27

#	Article	IF	Citations
343	Using Boosted Features for the Detection of People in 2D Range Data. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	235
344	Most likely heteroscedastic Gaussian process regression. , 2007, , .		163
345	Using AdaBoost for Place Labeling and Topological Map Building. , 2007, , 453-472.		7
346	Efficiently Learning Metric and Topological Maps with Autonomous Service Robots (Effizientes Lernen) Tj ETQq0 0 0 rgBT /Overlock 10 T 2007, 49, 232-237.	0.9	2
347	Towards Mapping of Cities. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	28
348	Learning maps in 3D using attitude and noisy vision sensors. , 2007, , .		19
349	Approximate Covariance Estimation in Graphical Approaches to SLAM. , 2007, , .		8
350	Improved likelihood models for probabilistic localization based on range scans. , 2007, , .		10
351	An Efficient Extension to Elevation Maps for Outdoor Terrain Mapping and Loop Closing. International Journal of Robotics Research, 2007, 26, 217-230.	8.5	127
352	Learning to transfer optimal navigation policies. Advanced Robotics, 2007, 21, 1565-1582.	1.8	5
353	Analyzing gaussian proposal distributions for mapping with rao-blackwellized particle filters. , 2007, , .		29
354	Efficient estimation of accurate maximum likelihood maps in 3D. , 2007, , .		105
355	Improved Techniques for Grid Mapping With Rao-Blackwellized Particle Filters. , 2007, 23, 34-46.		1,766
356	Mobile Robot Map Learning from Range Data in Dynamic Environments. , 2007, , 3-28.		22
357	Supervised semantic labeling of places using information extracted from sensor data. Robotics and Autonomous Systems, 2007, 55, 391-402.	5.1	132
358	Fast and accurate SLAM with Raoâ€"Blackwellized particle filters. Robotics and Autonomous Systems, 2007, 55, 30-38.	5.1	137
359	Autonomous Exploration for 3D Map Learning. Informatik Aktuell, 2007, , 22-28.	0.6	24
360	Active Monte Carlo Localization in Outdoor Terrains Using Multi-level Surface Maps. Informatik Aktuell, 2007, , 29-35.	0.6	7

#	Article	IF	Citations
361	Multi-Level Surface Maps for Outdoor Terrain Mapping and Loop Closing. , 2006, , .		246
362	Multiple Hypothesis Tracking of Clusters of People. , 2006, , .		37
363	Learning Relational Navigation Policies. , 2006, , .		13
364	Improving Data Association in Vision-based SLAM. , 2006, , .		32
365	Supervised Learning of Topological Maps using Semantic Information Extracted from Range Data. , 2006, , .		28
366	An Efficient Extension of Elevation Maps for Outdoor Terrain Mapping. , 2006, , 195-206.		0
367	Transregional Collaborative Research Center SFB/TR 8 Spatial Cognition: Reasoning, Action, Interaction (Sonderforschungsbereich/Transregio SFB/TR 8 Raumkognition: SchlieÃŸen, Handeln,) Tj ETQq1 1 0.784314 rgBT /Overloc		
368	On actively closing loops in grid-based FastSLAM. Advanced Robotics, 2005, 19, 1059-1079.	1.8	45
369	Towards Lazy Data Association in SLAM. Springer Tracts in Advanced Robotics, 2005, , 421-431.	0.4	34
370	Vision-Based 3D Object Localization Using Probabilistic Models of Appearance. Lecture Notes in Computer Science, 2005, , 184-191.	1.3	3
371	First steps towards a robotic system for flexible volumetric mapping of indoor environments. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 651-656.	0.4	5
372	A comparison of methods for line extraction from range data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 728-733.	0.4	33
373	Guest Editorial: Special Issue on Internet and Online Robots. Autonomous Robots, 2003, 15, 211-212.	4.8	0
374	Tele-Presence in Populated Exhibitions Through Web-Operated Mobile Robots. Autonomous Robots, 2003, 15, 299-316.	4.8	13
375	Learning compact 3D models of indoor and outdoor environments with a mobile robot. Robotics and Autonomous Systems, 2003, 44, 15-27.	5.1	226
376	Mobile robot mapping in populated environments. Advanced Robotics, 2003, 17, 579-597.	1.8	65
377	Finding and optimizing solvable priority schemes for decoupled path planning techniques for teams of mobile robots. Robotics and Autonomous Systems, 2002, 41, 89-99.	5.1	179
378	Collaborative Exploration of Unknown Environments with Teams of Mobile Robots. Lecture Notes in Computer Science, 2002, , 52-70.	1.3	46

#	Article	IF	Citations
379	Using an Image Retrieval System for Vision-Based Mobile Robot Localization. Lecture Notes in Computer Science, 2002, , 108-119.	1.3	23
380	Probabilistic state estimation of dynamic objects with a moving mobile robot. Robotics and Autonomous Systems, 2001, 34, 107-115.	5.1	30
381	Robust Monte Carlo localization for mobile robots. Artificial Intelligence, 2001, 128, 99-141.	5.8	1,359
382	A Probabilistic Approach to Collaborative Multi-Robot Localization. Autonomous Robots, 2000, 8, 325-344.	4.8	507
383	Efficient Multi-Robot Localization Based on Monte Carlo Approximation. , 2000, , 153-160.		5
384	Experiences with an interactive museum tour-guide robot. Artificial Intelligence, 1999, 114, 3-55.	5.8	605
385	MINERVA: A Tour-Guide Robot that Learns. Lecture Notes in Computer Science, 1999, , 14-26.	1.3	24
386	Collaborative Multi-robot Localization. Lecture Notes in Computer Science, 1999, , 255-266.	1.3	13
387	The Museum Tour-Guide Robot RHINO. Informatik Aktuell, 1999, , 245-254.	0.6	22
388	Collaborative Multi-Robot Localization. Informatik Aktuell, 1999, , 15-26.	0.6	35
389	Markov Localization for Reliable Robot Navigation and People Detection. Lecture Notes in Computer Science, 1999, , 1-20.	1.3	7
390	A Probabilistic Approach to Concurrent Mapping and Localization for Mobile Robots. Machine Learning, 1998, 31, 29-53.	5.4	467
391	Integrating active localization into high-level robot control systems. Robotics and Autonomous Systems, 1998, 23, 205-220.	5.1	16
392	Active Markov localization for mobile robots. Robotics and Autonomous Systems, 1998, 25, 195-207.	5.1	330
393	Knowledge-based design of ergonomic lighting for underground scenarios. , 1992, , 491-494.		0
394	Erzeugung von VerfahrensflieÃŸbildern mit Expertensystemen. Chemie-Ingenieur-Technik, 1987, 59, 650-652.	0.8	3
395	Robust Monte-Carlo Localization Using Adaptive Likelihood Models. , 0, , 181-194.		41
396	Metric Localization with Scale-Invariant Visual Features Using a Single Perspective Camera. , 0, , 195-209.		31

#	Article	IF	Citations
397	Efficient Failure Detection for Mobile Robots Using Mixed-Abstraction Particle Filters. , 0, , 93-107.		7
398	Information Gain-based Exploration Using Rao-Blackwellized Particle Filters. , 0, , .		307
399	Adaptive Body Scheme Models for Robust Robotic Manipulation. , 0, , .		13
400	Feature-Based Prediction of Trajectories for Socially Compliant Navigation. , 0, , .		125
401	Nonlinear Graph Sparsification for SLAM. , 0, , .		24
402	Recursive Decentralized Collaborative Localization for Sparsely Communicating Robots. , 0, , .		26
403	A Real-time Algorithm for Acquiring Multi-Planar Volumetric Models with Mobile Robots. , 0, , 21-35.		3