Jan Faigl

List of Publications by Year
in descending order

127 papers	2,127 citations	331259 21 h-index	329751 37 g-index
130 all docs	130 docs citations	130 times ranked	1530 citing authors

#	Article	IF	Citations
1	WiSM: Windowing Surrogate Model for Evaluation of Curvature-Constrained Tours With Dubins Vehicle. IEEE Transactions on Cybernetics, 2022, 52, 1302-1311.	6.2	8
2	Continually trained life-long classification. Neural Computing and Applications, 2022, 34, 135-152.	3.2	5
3	T*$oldsymbol{varepsilon}$â€"Bounded-Suboptimal Efficient Motion Planning for Minimum-Time Planar Curvature-Constrained Systems. IEEE Robotics and Automation Letters, 2022, 7, 4102-4109.	3.3	0
4	Traveling Salesman Problem with neighborhoods on a sphere in reflectance transformation imaging scenarios. Expert Systems With Applications, 2022, 198, 116814.	4.4	4
5	Bounding optimal headings in the Dubins Touring Problem. , 2022, , .		0
6	Terrain Traversal Cost Learning with Knowledge Transfer Between Multi-legged Walking Robot Gaits. , 2022, , .		0
7	On Building Communication Maps in Subterranean Environments. Lecture Notes in Computer Science, 2021, , 15-28.	1.0	2
8	Experimental Leg Inverse Dynamics Learning of Multi-legged Walking Robot. Lecture Notes in Computer Science, 2021, , 154-168.	1.0	0
9	Vision-Based Localization for Multi-rotor Aerial Vehicle in Outdoor Scenarios. Lecture Notes in Computer Science, 2021, , 217-228.	1.0	0
10	Self-Learning Event Mistiming Detector Based on Central Pattern Generator. Frontiers in Neurorobotics, 2021, 15, 629652.	1.6	5
11	Guest Editorial Special Issue on Smart Sensing for Agriculture. IEEE Sensors Journal, 2021, 21, 17419-17419.	2.4	0
12	Multi-Tour Set Traveling Salesman Problem in Planning Power Transmission Line Inspection. IEEE Robotics and Automation Letters, 2021, 6, 6196-6203.	3.3	26
13	Design, Construction, and Rough-Terrain Locomotion Control of Novel Hexapod Walking Robot With Four Degrees of Freedom Per Leg. IEEE Access, 2021, 9, 17866-17881.	2.6	14
14	Gait-Free Planning for Hexapod Walking Robot. , 2021, , .		3
15	Decentralized Topological Mapping for Multi-robot Autonomous Exploration under Low-Bandwidth Communication. , 2021, , .		4
16	Finding 3D Dubins Paths with Pitch Angle Constraint Using Non-linear Optimization. , 2021, , .		2
17	Risk-aware Trajectory Planning in Urban Environments with Safe Emergency Landing Guarantee. , 2021, , .		6
18	Variable-Speed Traveling Salesman Problem for Vehicles with Curvature Constrained Trajectories. , 2021, , .		4

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19	Unsupervised learning-based solution of the Close Enough Dubins Orienteering Problem. Neural Computing and Applications, 2020, 32, 18193-18211.	3.2	1
20	Minimal 3D Dubins Path with Bounded Curvature and Pitch Angle. , 2020, , .		9
21	Optimal solution of the Generalized Dubins Interval Problem: finding the shortest curvature-constrained path through a set of regions. Autonomous Robots, 2020, 44, 1359-1376.	3.2	5
22	Neurodynamic Sensory-Motor Phase Binding for Multi-Legged Walking Robots. , 2020, , .		3
23	Surveillance planning with safe emergency landing guarantee for fixed-wing aircraft. Robotics and Autonomous Systems, 2020, 133, 103644.	3.0	4
24	DARPA Subterranean Challenge: Multi-robotic Exploration of Underground Environments. Lecture Notes in Computer Science, 2020, , 274-290.	1.0	39
25	Handheld Localization Device for Indoor Environments. , 2020, , .		3
26	On finding time-efficient trajectories for fixed-wing aircraft using dubins paths with multiple radii. , 2020, , .		4
27	Incremental Traversability Assessment Learning Using Growing Neural Gas Algorithm. Advances in Intelligent Systems and Computing, 2020, , 166-176.	0.5	3
28	Terrain Learning Using Time Series of Ground Unit Traversal Cost. Lecture Notes in Computer Science, 2020, , 97-107.	1.0	1
29	Speeded Up Elevation Map for Exploration of Large-Scale Subterranean Environments. Lecture Notes in Computer Science, 2020, , 190-202.	1.0	8
30	Aerial Reconnaissance and Ground Robot Terrain Learning in Traversal Cost Assessment. Lecture Notes in Computer Science, 2020, , 3-10.	1.0	2
31	Greedy randomized adaptive search procedure for close enough orienteering problem. , 2020, , .		3
32	Transfer of Inter-Robotic Inductive Classifier. , 2020, , .		1
33	Fast Sequence Rejection for Multi-Goal Planning with Dubins Vehicle. , 2020, , .		3
34	Analysis of Using Mixed Reality Simulations for Incremental Development of Multi-UAV Systems. Journal of Intelligent and Robotic Systems: Theory and Applications, 2019, 95, 211-227.	2.0	4
35	Physical Orienteering Problem for Unmanned Aerial Vehicle Data Collection Planning in Environments With Obstacles. IEEE Robotics and Automation Letters, 2019, 4, 3005-3012.	3.3	28
36	Traversal Cost Modeling Based on Motion Characterization for Multi-legged Walking Robots. , 2019, , .		2

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37	Emergency Landing Aware Surveillance Planning for Fixed-wing Planes. , 2019, , .		0
38	On Autonomous Spatial Exploration with Small Hexapod Walking Robot using Tracking Camera Intel RealSense T265. , 2019, , .		33
39	Multi-Vehicle Close Enough Orienteering Problem with BÃ©zier Curves for Multi-Rotor Aerial Vehicles. , 2019, , .		4
40	Variable Neighborhood Search for the Set Orienteering Problem and its application to other Orienteering Problem variants. European Journal of Operational Research, 2019, 276, 816-825.	3.5	26
41	Fast Heuristics for the 3-D Multi-Goal Path Planning Based on the Generalized Traveling Salesman Problem With Neighborhoods. IEEE Robotics and Automation Letters, 2019, 4, 2439-2446.	3.3	16
42	Self-supervised learning of the biologically-inspired obstacle avoidance of hexapod walking robot. Bioinspiration and Biomimetics, 2019, 14, 046002.	1.5	9
43	Data collection planning with non-zero sensing distance for a budget and curvature constrained unmanned aerial vehicle. Autonomous Robots, 2019, 43, 1937-1956.	3.2	20
44	Localization Fusion for Aerial Vehicles in Partially GNSS Denied Environments. Lecture Notes in Computer Science, 2019, , 251-262.	1.0	3
45	Adaptive locomotion control of hexapod walking robot for traversing rough terrains with position feedback only. Robotics and Autonomous Systems, 2019, 116, 136-147.	3.0	57
46	Trajectory Planning for Aerial Vehicles in the Area Coverage Problem with Nearby Obstacles. Lecture Notes in Computer Science, 2019, , 226-236.	1.0	1
47	Data collection path planning with spatially correlated measurements using growing self-organizing array. Applied Soft Computing Journal, 2019, 75, 130-147.	4.1	10
48	Unsupervised learningâ€based flexible framework for surveillance planning with aerial vehicles. Journal of Field Robotics, 2019, 36, 270-301.	3.2	27
49	Modeling Proprioceptive Sensing for Locomotion Control of Hexapod Walking Robot in Robotic Simulator. Lecture Notes in Computer Science, 2019, , 215-225.	1.0	2
50	Basic Evaluation Scenarios for Incrementally Trained Classifiers. Lecture Notes in Computer Science, 2019, , 507-517.	1.0	4
51	On Unsupervised Learning of Traversal Cost and Terrain Types Identification Using Self-organizing Maps. Lecture Notes in Computer Science, 2019, , 654-668.	1.0	3
52	Incremental Learning of Traversability Cost for Aerial Reconnaissance Support to Ground Units. Lecture Notes in Computer Science, 2019, , 412-421.	1.0	8
53	Benchmarking Incremental Regressors in Traversal Cost Assessment. Lecture Notes in Computer Science, 2019, , 685-697.	1.0	3
54	Surveillance Planning With BÃ©zier Curves. IEEE Robotics and Automation Letters, 2018, 3, 750-757.	3.3	43

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55	Online planning for multi-robot active perception with self-organising maps. Autonomous Robots, 2018, 42, 715-738.	3.2	45
56	Guest editorial: Special issue on online decision making in multi-robot coordination. Autonomous Robots, 2018, 42, 687-689.	3.2	0
57	Autonomous Data Collection Using a Self-Organizing Map. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 1703-1715.	7.2	56
58	Real-Time FPGA-Based Detection of Speeded-Up Robust Features Using Separable Convolution. IEEE Transactions on Industrial Informatics, 2018, 14, 1155-1163.	7.2	15
59	Any-Time Trajectory Planning for Safe Emergency Landing. , 2018, , .		8
60	On Unsupervised Learning based Multi-Goal Path Planning for Visiting 3D Regions. , 2018, , .		0
61	Online Foot-Strike Detection Using Inertial Measurements for Multi-Legged Walking Robots. , 2018, , .		1
62	Cost of Transport Estimation for Legged Robot Based on Terrain Features Inference from Aerial Scan. , 2018, , .		13
63	The Dubins Traveling Salesman Problem with Neighborhoods in the Three-Dimensional Space. , 2018, , .		5
64	GSOA: Growing Self-Organizing Array - Unsupervised learning for the Close-Enough Traveling Salesman Problem and other routing problems. Neurocomputing, 2018, 312, 120-134.	3.5	26
65	Communication Architecture in Mixed-Reality Simulations of Unmanned Systems. Sensors, 2018, 18, 853.	2.1	6
66	Terrain Classification with Crawling Robot Using Long Short-Term Memory Network. Lecture Notes in Computer Science, 2018, , 771-780.	1.0	2
67	System for deployment of groups of unmanned micro aerial vehicles in GPS-denied environments using onboard visual relative localization. Autonomous Robots, 2017, 41, 919-944.	3.2	99
68	Dubins Orienteering Problem. IEEE Robotics and Automation Letters, 2017, 2, 1210-1217.	3.3	64
69	An experimental study on feature-based SLAM for multi-legged robots with RGB-D sensors. Industrial Robot, 2017, 44, 428-441.	1.2	14
70	Unsupervised learning for surveillance planning with team of aerial vehicles. , 2017, , .		13
71	Neural based obstacle avoidance with CPG controlled hexapod walking robot. , 2017, , .		9
72	Dubins orienteering problem with neighborhoods. , 2017, , .		14

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73	Mixed reality simulation for incremental development of multi-UAV systems. , 2017, , .		7
74	On self-organizing maps for orienteering problems. , 2017, , .		6
75	Foothold placement planning with a hexapod crawling robot. , 2017, , .		10
76	On close enough orienteering problem with Dubins vehicle. , 2017, , .		6
77	On solution of the Dubins touring problem. , 2017, , .		16
78	Data collection planning with Dubins airplane model and limited travel budget. , 2017, , .		1
79	Self-organizing map for orienteering problem with dubins vehicle. , 2017, , .		0
80	An Application of Self-Organizing Map for Multirobot Multigoal Path Planning with Minmax Objective. Computational Intelligence and Neuroscience, 2016, 2016, 1-15.	1.1	24
81	Road following with blind crawling robot. , 2016, , .		7
82	On localization and mapping with RGB-D sensor and hexapod walking robot in rough terrains. , 2016, , .		9
83	Self-organizing map-based solution for the Orienteering problem with neighborhoods. , 2016, , .		22
84	Self-Organizing Map for data collection planning in persistent monitoring with spatial correlations. , 2016, , .		2
85	Evolution of multiple gaits for modular robots. , 2016, , .		1
86	Stereo vision-based localization for hexapod walking robots operating in rough terrains. , 2016, , .		3
87	Multi-robot path planning for budgeted active perception with self-organising maps. , 2016, , .		24
88	Self-Organizing Map for the Curvature-Constrained Traveling Salesman Problem. Lecture Notes in Computer Science, 2016, , 497-505.	1.0	8
89	Low-latency image processing for vision-based navigation systems. , 2016, , .		3
90	Random Inspection Tree Algorithm in visual inspection with a realistic sensing model and differential constraints. , 2016, , .		4

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91	On Self-Organizing Map and Rapidly-Exploring Random Graph in Multi-Goal Planning. Advances in Intelligent Systems and Computing, 2016, , 143-153.	0.5	2
92	Reaction Diffusion Voronoi Diagrams: From Sensors Data to Computing. Sensors, 2015, 15, 12736-12764.	2.1	4
93	On the Dubins Traveling Salesman Problem with Neighborhoods. , 2015, , .		21
94	On benchmarking of frontier-based multi-robot exploration strategies. , 2015, , .		25
95	Tactile sensing with servo drives feedback only for blind hexapod walking robot. , 2015, , .		15
96	A Practical Multirobot Localization System. Journal of Intelligent and Robotic Systems: Theory and Applications, 2014, 76, 539-562.	2.0	174
97	Multi-goal Trajectory Planning with Motion Primitives for Hexapod Walking Robot. , 2014, , .		4
98	Unifying multi-goal path planning for autonomous data collection. , 2014, , .		24
99	Self-Organizing Map for the Prize-Collecting Traveling Salesman Problem. Advances in Intelligent Systems and Computing, 2014, , 281-291.	0.5	5
100	A cooperative driver model for traffic simulations. , 2013, , .		5
101	Growing neural gas efficiently. Neurocomputing, 2013, 104, 72-82.	3.5	32
102	SyRoTekâ€”Distance Teaching of Mobile Robotics. IEEE Transactions on Education, 2013, 56, 18-23.	2.0	60
103	Visiting convex regions in a polygonal map. Robotics and Autonomous Systems, 2013, 61, 1070-1083.	3.0	11
104	Low-cost embedded system for relative localization in robotic swarms. , 2013, , .		65
105	On determination of goal candidates in frontier-based multi-robot exploration. , 2013, , .		15
106	External localization system for mobile robotics. , 2013, , .		20
107	Speeding up coverage queries in 3D multi-goal path planning. , 2013, , .		11
108	Asynchronous decentralized prioritized planning for coordination in multi-robot system. , 2013, , .		24

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109	Goal assignment using distance cost in multi-robot exploration. , 2012, , .		46
110	Path planning based on reaction-diffusion process. , 2012, , .		9
111	On localization uncertainty in an autonomous inspection. , 2012, , .		8
112	Low cost MAV platform AR-drone in experimental verifications of methods for vision based autonomous navigation. , 2012, , .		24
113	AR-Drone as a Platform for Robotic Research and Education. Communications in Computer and Information Science, 2011, , 172-186.	0.4	151
114	An application of the self-organizing map in the non-Euclidean Traveling Salesman Problem. Neurocomputing, 2011, 74, 671-679.	3.5	34
115	Inspection planning in the polygonal domain by Self-Organizing Map. Applied Soft Computing Journal, 2011, 11, 5028-5041.	4.1	6
116	A Sensor Placement Algorithm for a Mobile Robot Inspection Planning. Journal of Intelligent and Robotic Systems: Theory and Applications, 2011, 62, 329-353.	2.0	19
117	On the performance of self-organizing maps for the non-Euclidean Traveling Salesman Problem in the polygonal domain. Information Sciences, 2011, 181, 4214-4229.	4.0	17
118	On distance utility in the exploration task. , 2011, , .		28
119	Estimation of Mobile Robot Pose from Optical Mouses. Communications in Computer and Information Science, 2011, , 93-107.	0.4	3
120	Simple yet stable bearingâ€only navigation. Journal of Field Robotics, 2010, 27, 511-533.	3.2	62
121	Approximate Solution of the Multiple Watchman Routes Problem With Restricted Visibility Range. IEEE Transactions on Neural Networks, 2010, 21, 1668-1679.	4.8	39
122	FPGA based Speeded Up Robust Features. , 2009, , .		60
123	RRT-path â€“ A Guided Rapidly Exploring Random Tree. Lecture Notes in Control and Information Sciences, 2009, , 307-316.	0.6	28
124	Iterative Prototype Optimisation with Evolved Improvement Steps. Lecture Notes in Computer Science, 2006, , 154-165.	1.0	17
125	Cooperative planning for heterogeneous teams in rescue operations. , 0, , .		13
126	Sensing Locations Positioning for Multi-robot Inspection Planning. , 0, , .		2

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127	Online Incremental Learning of the Terrain Traversal Cost in Autonomous Exploration. , 0, , .		14