Volkan Isler

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2810812/publications.pdf

Version: 2024-02-01

123	3,391	201385	182168
papers	citations	27 h-index	51 g-index

124	124	124	2726
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Search and pursuit-evasion in mobile robotics. Autonomous Robots, 2011, 31, 299-316.	3.2	434
2	Sensor Planning for a Symbiotic UAV and UGV System for Precision Agriculture. IEEE Transactions on Robotics, 2016, 32, 1498-1511.	7.3	339
3	Development and field evaluation of a strawberry harvesting robot with a cable-driven gripper. Computers and Electronics in Agriculture, 2019, 157, 392-402.	3.7	157
4	Using mobile robots to harvest data from sensor fields. IEEE Wireless Communications, 2009, 16, 22-28.	6.6	146
5	The role of information in the cop-robber game. Theoretical Computer Science, 2008, 399, 179-190.	0.5	97
6	A comparative study of fruit detection and counting methods for yield mapping in apple orchards. Journal of Field Robotics, 2020, 37, 263-282.	3.2	95
7	Robotic data mules for collecting data over sparse sensor fields. Journal of Field Robotics, 2011, 28, 388-404.	3.2	83
8	Energy-optimal trajectory planning for car-like robots. Autonomous Robots, 2014, 37, 279-300.	3.2	83
9	Lion and man with visibility in monotone polygons. International Journal of Robotics Research, 2014, 33, 155-181.	5.8	76
10	Sensor Placement for Triangulation-Based Localization. IEEE Transactions on Automation Science and Engineering, 2010, 7, 681-685.	3.4	74
11	Stochastic event capture using mobile sensors subject to a quality metric. , 2006, , .		70
12	Randomized Pursuit-Evasion with Local Visibility. SIAM Journal on Discrete Mathematics, 2006, 20, 26-41.	0.4	67
13	MinneApple: A Benchmark Dataset for Apple Detection and Segmentation. IEEE Robotics and Automation Letters, 2020, 5, 852-858.	3.3	67
14	Stochastic Event Capture Using Mobile Sensors Subject to a Quality Metric. , 2007, 23, 676-692.		65
15	Energyâ€efficient Path Planning for Solarâ€powered Mobile Robots*. Journal of Field Robotics, 2013, 30, 583-601.	3.2	64
16	Capturing an Omnidirectional Evader in Convex Environments Using a Differential Drive Robot. IEEE Robotics and Automation Letters, 2016, 1, 1007-1013.	3.3	61
17	Sensor planning for a symbiotic UAV and UGV system for precision agriculture. , 2013, , .		59
18	Capturing an evader in polygonal environments with obstacles: The full visibility case. International Journal of Robotics Research, 2012, 31, 1176-1189.	5.8	52

#	Article	IF	Citations
19	Multi-target visual tracking with aerial robots. , 2014, , .		52
20	Tracking Aquatic Invaders: Autonomous Robots for Monitoring Invasive Fish. IEEE Robotics and Automation Magazine, 2013, 20, 33-41.	2.2	50
21	A robotic system for monitoring carp in Minnesota lakes. Journal of Field Robotics, 2010, 27, 779-789.	3.2	47
22	Trinocular Stereo: A Real-Time Algorithm and its Evaluation. International Journal of Computer Vision, 2002, 47, 51-61.	10.9	44
23	Semantic mapping for orchard environments by merging twoâ€sides reconstructions of tree rows. Journal of Field Robotics, 2020, 37, 97-121.	3.2	43
24	Ellipse R-CNN: Learning to Infer Elliptical Object From Clustering and Occlusion. IEEE Transactions on Image Processing, 2021, 30, 2193-2206.	6.0	41
25	Robotic Routers: Algorithms and Implementation. International Journal of Robotics Research, 2010, 29, 110-126.	5.8	40
26	Coverage Path Planning Under the Energy Constraint. , 2018, , .		38
27	Target tracking with distributed sensors: The focus of attention problem. Computer Vision and Image Understanding, 2005, 100, 225-247.	3.0	37
28	Visibility-based deployment of robot formations for communication maintenance. , 2011, , .		35
29	A Novel Method for the Extrinsic Calibration of a 2D Laser Rangefinder and a Camera. IEEE Sensors Journal, 2018, 18, 4200-4211.	2.4	35
30	Algorithms for Cooperative Active Localization of Static Targets With Mobile Bearing Sensors Under Communication Constraints. IEEE Transactions on Robotics, 2015, 31, 864-876.	7.3	34
31	Triangulation Based Multi Target Tracking with Mobile Sensor Networks. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	32
32	Large Scale Image Mosaic Construction for Agricultural Applications. IEEE Robotics and Automation Letters, 2016, 1, 295-302.	3.3	32
33	Vision-based preharvest yield mapping for apple orchards. Computers and Electronics in Agriculture, 2019, 164, 104897.	3.7	32
34	Design and Evaluation of a Novel Cable-Driven Gripper with Perception Capabilities for Strawberry Picking Robots. , 2018, , .		31
35	Adaptive View Planning for Aerial 3D Reconstruction. , 2019, , .		27
36	Energy-optimal velocity profiles for car-like robots. , 2011, , .		25

#	Article	IF	Citations
37	Vision-Based UAV Navigation in Orchards*** This work is supported in part by NSF Awards 1111638, 1525045 and the MnDrive initiative. The authors thank Professors Emily Hoover, Cindy Tong and James Luby from the Department of Horticultural Science, University of Minnesota for access to their orchards and useful discussions. We also thank Dr. Krishna Doddapaneni for his help with the experiments.. IFAC-PapersOnLine, 2016, 49, 10-15.	0.5	25
38	Lion and man game in the presence of a circular obstacle. , 2009, , .		24
39	Vision-based monitoring of orchards with UAVs. Computers and Electronics in Agriculture, 2019, 163, 104814.	3.7	24
40	Cautious Greedy Strategy for Bearingâ€only Active Localization: Analysis and Field Experiments. Journal of Field Robotics, 2014, 31, 296-318.	3.2	23
41	Active target localization for bearing based robotic telemetry. , 2011, , .		21
42	Tracking wildlife with multiple UAVs: System design, safety and field experiments. , 2017, , .		19
43	Controller design for human-robot interaction. Autonomous Robots, 2008, 24, 123-134.	3.2	18
44	Robotic routers. , 2008, , .		18
45	Data gathering tours for mobile robots. , 2009, , .		18
46	Environment and Solar Map Construction for Solar-Powered Mobile Systems. IEEE Transactions on Robotics, 2016, 32, 70-82.	7.3	18
47	Gathering Bearing Data for Target Localization. IEEE Robotics and Automation Letters, 2016, 1, 369-374.	3.3	17
48	A Robotic Sensor Network for monitoring carp in Minnesota lakes. , 2010, , .		15
49	Efficient data collection from wireless nodes under the two-ring communication model. International Journal of Robotics Research, 2012, 31, 774-784.	5.8	15
50	Surveying apple orchards with a monocular vision system. , 2016, , .		15
51	Building a 3D Virtual Museum of Native American Baskets. , 2006, , .		14
52	Apple Counting using Convolutional Neural Networks. , 2018, , .		13
53	Enabling Low-Cost Full Surface Tactile Skin for Human Robot Interaction. IEEE Robotics and Automation Letters, 2022, 7, 1800-1807.	3.3	13
54	Symmetric Rendezvous Search on the Line With an Unknown Initial Distance. IEEE Transactions on Robotics, 2013, 29, 1366-1379.	7.3	12

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55	A Leapfrog Strategy for Pursuit-Evasion in a Polygonal Environment. International Journal of Computational Geometry and Applications, 2015, 25, 77-100.	0.3	11
56	Environment Exploration in Sensing Automation for Habitat Monitoring. IEEE Transactions on Automation Science and Engineering, 2017, 14, 25-38.	3.4	11
57	Sensor Placement Algorithms for Triangulation Based Localization. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	10
58	Maintaining connectivity in environments with obstacles. , 2010, , .		10
59	Active localization of VHF collared animals with aerial robots. , 2016, , .		10
60	Air To Ground Collaboration For Energy-efficient Path Planning For Ground Robots. , 2019, , .		10
61	Acoustic Collision Detection and Localization for Robot Manipulators. , 2020, , .		10
62	Sensor Selection in Arbitrary Dimensions. IEEE Transactions on Automation Science and Engineering, 2008, 5, 651-660.	3.4	9
63	Pursuit-Evasion: A Toolkit to Make Applications More Accessible [Tutorial]. IEEE Robotics and Automation Magazine, 2016, 23, 138-149.	2.2	9
64	A novel method for the extrinsic calibration of a 2-D laser-rangefinder & a camera. , 2017, , .		9
65	Visual Coverage Path Planning for Urban Environments. IEEE Robotics and Automation Letters, 2020, 5, 5961-5968.	3.3	9
66	Bearing-only pursuit. , 2008, , .		8
67	Active view planning for counting apples in orchards. , 2017, , .		8
68	Registering Reconstructions of the Two Sides of Fruit Tree Rows. , 2018, , .		8
69	Local-Search Strategy for Active Localization of Multiple Invasive Fish. Springer Tracts in Advanced Robotics, 2013, , 859-873.	0.3	8
70	Searching for a one-dimensional random walker: Deterministic strategies with a time budget when crossing is allowed. , 2013, , .		7
71	The lion and man game on polyhedral surfaces with boundary. , 2014, , .		7
72	Finding and tracking targets in the wild: Algorithms and field deployments. , 2015, , .		7

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73	Semantic Mapping of Orchards**This work is supported in part by NRI Award 1525045, RI Large Award 1111638, NSF Award 1317788, USDA Award MIN-98-G02 and the MnDrive initiative.. IFAC-PapersOnLine, 2016, 49, 85-89.	0.5	7
74	Aerial Radio-Based Telemetry for Tracking Wildlife. , 2018, , .		7
75	Approximation algorithms for tours of height-varying view cones. International Journal of Robotics Research, 2019, 38, 224-235.	5.8	7
76	Online Coverage Planning for an Autonomous Weed Mowing Robot With Curvature Constraints. IEEE Robotics and Automation Letters, 2022, 7, 5445-5452.	3.3	7
77	The role of target modeling in designing search strategies. , 2014, , .		6
78	Constrained Probabilistic Search for a One-Dimensional Random Walker. IEEE Transactions on Robotics, 2016, 32, 261-274.	7.3	6
79	Lion and Man with Visibility in Monotone Polygons. Springer Tracts in Advanced Robotics, 2013, , 263-278.	0.3	6
80	Predicting Energy Consumption of Ground Robots on Uneven Terrains. IEEE Robotics and Automation Letters, 2022, 7, 594-601.	3.3	6
81	Navigation around an unknown obstacle for autonomous surface vehicles using a forward-facing sonar. , 2015, , .		5
82	Rendezvous in planar environments with obstacles and unknown initial distance. Artificial Intelligence, 2019, 273, 19-36.	3.9	5
83	Building a Communication Bridge with Mobile Hubs. Lecture Notes in Computer Science, 2009, , 179-190.	1.0	5
84	Predictive State Representations for grounding human-robot communication. , 2010, , .		4
85	Building a Communication Bridge With Mobile Hubs. IEEE Transactions on Automation Science and Engineering, 2011, , .	3.4	4
86	Cautious greedy strategy for bearing-based active localization: Experiments and theoretical analysis. , 2012, , .		4
87	Modeling human motion patterns for multi-robot planning. , 2012, , .		4
88	Polygon guarding with orientation. , 2014, , .		4
89	Approximation Algorithms for Tours of Orientation-Varying View Cones. , 2018, , .		4
90	Vision-Based Apple Counting and Yield Estimation. Springer Proceedings in Advanced Robotics, 2017, , 478-487.	0.9	4

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91	Searching for a one-dimensional random walker: Randomized strategy with energy budget. , 2013, , .		3
92	A competitive online algorithm for exploring a solar map. , 2014, , .		3
93	Networked Robots [TC Spotlight]. IEEE Robotics and Automation Magazine, 2015, 22, 25-29.	2.2	3
94	UAV Landing at an Unknown Location Marked by a Radio Beacon. , 2019, , .		3
95	EV-Catcher: High-Speed Object Catching Using Low-Latency Event-Based Neural Networks. IEEE Robotics and Automation Letters, 2022, 7, 8737-8744.	3.3	3
96	A multi-robot system for unconfined video-conferencing. , 2010, , .		2
97	Sensor placement and selection for bearing sensors with bounded uncertainty. , 2013, , .		2
98	Linear velocity from commotion motion. , 2017, , .		2
99	Asynchronous Network Formation in Unknown Unbounded Environments*. , 2019, , .		2
100	Line-of-Sight Pursuit in Monotone and Scallop Polygons. International Journal of Computational Geometry and Applications, 2019, 29, 307-351.	0.3	2
101	Building Energy-Cost Maps From Aerial Images and Ground Robot Measurements With Semi-Supervised Deep Learning. IEEE Robotics and Automation Letters, 2020, 5, 5136-5142.	3.3	2
102	The Lion and Man Game on Convex Terrains. Springer Tracts in Advanced Robotics, 2015, , 443-460.	0.3	2
103	ROW-SLAM: Under-Canopy Cornfield Semantic SLAM. , 2022, , .		2
104	Probabilistic network formation through coverage and freeze-tag. Intelligent Service Robotics, 2009, 2, 265-273.	1.6	1
105	Visual servoing in orchard settings. , 2016, , .		1
106	Polygon guarding with orientation. Computational Geometry: Theory and Applications, 2016, 58, 97-109.	0.3	1
107	Turning a Corner with a Dubins Car. , 2019, , .		1
108	Approximation algorithms for tours of orientation-varying view cones. International Journal of Robotics Research, 2020, 39, 389-401.	5.8	1

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109	Energy-Efficient Data Collection from Wireless Nodes Using Mobile Robots. Springer Tracts in Advanced Robotics, 2011, , 697-712.	0.3	1
110	Learning Continuous Cost-to-Go Functions for Non-holonomic Systems. , 2021, , .		1
111	Guest editorial: special issue on search and pursuit-evasion with mobile robots. Autonomous Robots, 2011, 31, 297-298.	3.2	0
112	Special Issue on the Ninth International Workshop on Algorithmic Foundations of Robotics (WAFR). International Journal of Robotics Research, 2012, 31, 127-128.	5.8	0
113	Guest Editorial Special Section on the 2014 Workshop on the Algorithmic Foundations of Robotics. IEEE Transactions on Automation Science and Engineering, 2015, 12, 1297-1297.	3.4	0
114	Special Issue on the Eleventh Workshop on the Algorithmic Foundations of Robotics, 2014. International Journal of Robotics Research, 2016, 35, 437-437.	5.8	0
115	Guest Editorial Special Section on the 11th Workshop on the Algorithmic Foundations of Robotics (WAFR 2014). IEEE Transactions on Automation Science and Engineering, 2016, 13, 414-414.	3.4	0
116	Guest editorial: Special issue on active perception. Autonomous Robots, 2018, 42, 175-176.	3.2	0
117	The lion and man game on polyhedral surfaces with obstacles. Theoretical Computer Science, 2018, 739, 39-58.	0.5	0
118	Active Localization of Multiple Targets from Noisy Relative Measurements. Springer Proceedings in Advanced Robotics, 2021, , 398-413.	0.9	0
119	Establishing Fault-Tolerant Connectivity of Mobile Robot Networks. IEEE Transactions on Control of Network Systems, 2021, 8, 667-677.	2.4	0
120	Approximation Algorithms for Tours of Height-varying View Cones. Springer Proceedings in Advanced Robotics, 2020, , 192-207.	0.9	0
121	Choosing Classification Thresholds for Mobile Robot Coverage. , 2020, , .		0
122	Learning to Play Pursuit-Evasion with Visibility Constraints. , 2021, , .		0
123	Active target localization for bearing based robotic telemetry. , 2011, , .		0