Volkan Isler

List of Publications by Year
in descending order

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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	Predicting Energy Consumption of Ground Robots on Uneven Terrains. IEEE Robotics and Automation Letters, 2022, 7, 594-601.	3.3	6
2	Enabling Low-Cost Full Surface Tactile Skin for Human Robot Interaction. IEEE Robotics and Automation Letters, 2022, 7, 1800-1807.	3.3	13
3	Online Coverage Planning for an Autonomous Weed Mowing Robot With Curvature Constraints. IEEE Robotics and Automation Letters, 2022, 7, 5445-5452.	3.3	7
4	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
5	ROW-SLAM: Under-Canopy Cornfield Semantic SLAM. , 2022, , .		2
6	Active Localization of Multiple Targets from Noisy Relative Measurements. Springer Proceedings in Advanced Robotics, 2021, , 398-413.	0.9	0
7	Establishing Fault-Tolerant Connectivity of Mobile Robot Networks. IEEE Transactions on Control of Network Systems, 2021, 8, 667-677.	2.4	0
8	Ellipse R-CNN: Learning to Infer Elliptical Object From Clustering and Occlusion. IEEE Transactions on Image Processing, 2021, 30, 2193-2206.	6.0	41
9	Learning Continuous Cost-to-Go Functions for Non-holonomic Systems. , 2021, , .		1
10	Learning to Play Pursuit-Evasion with Visibility Constraints. , 2021, , .		0
11	Semantic mapping for orchard environments by merging twoâ€sides reconstructions of tree rows. Journal of Field Robotics, 2020, 37, 97-121.	3.2	43
12	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
13	Visual Coverage Path Planning for Urban Environments. IEEE Robotics and Automation Letters, 2020, 5, 5961-5968.	3.3	9
14	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
15	Approximation algorithms for tours of orientation-varying view cones. International Journal of Robotics Research, 2020, 39, 389-401.	5.8	1
16	MinneApple: A Benchmark Dataset for Apple Detection and Segmentation. IEEE Robotics and Automation Letters, 2020, 5, 852-858.	3.3	67
17	Approximation Algorithms for Tours of Height-varying View Cones. Springer Proceedings in Advanced Robotics, 2020, , 192-207.	0.9	0
18	Acoustic Collision Detection and Localization for Robot Manipulators. , 2020, , .		10

#	Article	IF	Citations
19	Choosing Classification Thresholds for Mobile Robot Coverage. , 2020, , .		0
20	Adaptive View Planning for Aerial 3D Reconstruction. , 2019, , .		27
21	Vision-based preharvest yield mapping for apple orchards. Computers and Electronics in Agriculture, 2019, 164, 104897.	3.7	32
22	Turning a Corner with a Dubins Car. , 2019, , .		1
23	Asynchronous Network Formation in Unknown Unbounded Environments*. , 2019, , .		2
24	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
25	Vision-based monitoring of orchards with UAVs. Computers and Electronics in Agriculture, 2019, 163, 104814.	3.7	24
26	Approximation algorithms for tours of height-varying view cones. International Journal of Robotics Research, 2019, 38, 224-235.	5.8	7
27	Rendezvous in planar environments with obstacles and unknown initial distance. Artificial Intelligence, 2019, 273, 19-36.	3.9	5
28	UAV Landing at an Unknown Location Marked by a Radio Beacon. , 2019, , .		3
29	Line-of-Sight Pursuit in Monotone and Scallop Polygons. International Journal of Computational Geometry and Applications, 2019, 29, 307-351.	0.3	2
30	Air To Ground Collaboration For Energy-efficient Path Planning For Ground Robots. , 2019, , .		10
31	Guest editorial: Special issue on active perception. Autonomous Robots, 2018, 42, 175-176.	3.2	0
32	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
33	Registering Reconstructions of the Two Sides of Fruit Tree Rows. , 2018, , .		8
34	Aerial Radio-Based Telemetry for Tracking Wildlife. , 2018, , .		7
35	Apple Counting using Convolutional Neural Networks. , 2018, , .		13
36	Design and Evaluation of a Novel Cable-Driven Gripper with Perception Capabilities for Strawberry Picking Robots. , 2018, , .		31

#	ARTICLE	IF	CITATIONS
37	Coverage Path Planning Under the Energy Constraint. , 2018, , .		38
38	Approximation Algorithms for Tours of Orientation-Varying View Cones. , 2018, , .		4
39	The lion and man game on polyhedral surfaces with obstacles. Theoretical Computer Science, 2018, 739, 39-58.	0.5	0
40	Environment Exploration in Sensing Automation for Habitat Monitoring. IEEE Transactions on Automation Science and Engineering, 2017, 14, 25-38.	3.4	11
41	A novel method for the extrinsic calibration of a 2-D laser-rangefinder & a camera. , 2017, , .		9
42	Tracking wildlife with multiple UAVs: System design, safety and field experiments. , 2017, , .		19
43	Linear velocity from commotion motion. , 2017, , .		2
44	Active view planning for counting apples in orchards. , 2017, , .		8
45	Vision-Based Apple Counting and Yield Estimation. Springer Proceedings in Advanced Robotics, 2017, , 478-487.	0.9	4
46	Active localization of VHF collared animals with aerial robots. , 2016, , .		10
47	Visual servoing in orchard settings. , 2016, , .		1
48	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
49	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
50	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
51	Sensor Planning for a Symbiotic UAV and UGV System for Precision Agriculture. IEEE Transactions on Robotics, 2016, 32, 1498-1511.	7.3	339
52	Polygon guarding with orientation. Computational Geometry: Theory and Applications, 2016, 58, 97-109.	0.3	1
53	Pursuit-Evasion: A Toolkit to Make Applications More Accessible [Tutorial]. IEEE Robotics and Automation Magazine, 2016, 23, 138-149.	2.2	9
54	Surveying apple orchards with a monocular vision system. , 2016, , .		15

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55	Environment and Solar Map Construction for Solar-Powered Mobile Systems. IEEE Transactions on Robotics, 2016, 32, 70-82.	7.3	18
56	Constrained Probabilistic Search for a One-Dimensional Random Walker. IEEE Transactions on Robotics, 2016, 32, 261-274.	7.3	6
57	Gathering Bearing Data for Target Localization. IEEE Robotics and Automation Letters, 2016, 1, 369-374.	3.3	17
58	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
59	Large Scale Image Mosaic Construction for Agricultural Applications. IEEE Robotics and Automation Letters, 2016, 1, 295-302.	3.3	32
60	Capturing an Omnidirectional Evader in Convex Environments Using a Differential Drive Robot. IEEE Robotics and Automation Letters, 2016, 1, 1007-1013.	3.3	61
61	Finding and tracking targets in the wild: Algorithms and field deployments. , 2015, , .		7
62	Navigation around an unknown obstacle for autonomous surface vehicles using a forward-facing sonar. , 2015, , .		5
63	A Leapfrog Strategy for Pursuit-Evasion in a Polygonal Environment. International Journal of Computational Geometry and Applications, 2015, 25, 77-100.	0.3	11
64	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
65	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
66	Networked Robots [TC Spotlight]. IEEE Robotics and Automation Magazine, 2015, 22, 25-29.	2.2	3
67	The Lion and Man Game on Convex Terrains. Springer Tracts in Advanced Robotics, 2015, , 443-460.	0.3	2
68	Multi-target visual tracking with aerial robots. , 2014, , .		52
69	The role of target modeling in designing search strategies. , 2014, , .		6
70	Polygon guarding with orientation. , 2014, , .		4
71	Cautious Greedy Strategy for Bearingâ€only Active Localization: Analysis and Field Experiments. Journal of Field Robotics, 2014, 31, 296-318.	3.2	23
72	Lion and man with visibility in monotone polygons. International Journal of Robotics Research, 2014, 33, 155-181.	5.8	76

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73	The lion and man game on polyhedral surfaces with boundary. , 2014, , .		7
74	A competitive online algorithm for exploring a solar map. , 2014, , .		3
75	Energy-optimal trajectory planning for car-like robots. Autonomous Robots, 2014, 37, 279-300.	3.2	83
76	Symmetric Rendezvous Search on the Line With an Unknown Initial Distance. IEEE Transactions on Robotics, 2013, 29, 1366-1379.	7.3	12
77	Tracking Aquatic Invaders: Autonomous Robots for Monitoring Invasive Fish. IEEE Robotics and Automation Magazine, 2013, 20, 33-41.	2.2	50
78	Searching for a one-dimensional random walker: Deterministic strategies with a time budget when crossing is allowed. , 2013, , .		7
79	Sensor placement and selection for bearing sensors with bounded uncertainty. , 2013, , .		2
80	Energyâ€efficient Path Planning for Solarâ€powered Mobile Robots*. Journal of Field Robotics, 2013, 30, 583-601.	3.2	64
81	Searching for a one-dimensional random walker: Randomized strategy with energy budget. , 2013, , .		3
82	Sensor planning for a symbiotic UAV and UGV system for precision agriculture. , 2013, , .		59
83	Lion and Man with Visibility in Monotone Polygons. Springer Tracts in Advanced Robotics, 2013, , 263-278.	0.3	6
84	Local-Search Strategy for Active Localization of Multiple Invasive Fish. Springer Tracts in Advanced Robotics, 2013, , 859-873.	0.3	8
85	Capturing an evader in polygonal environments with obstacles: The full visibility case. International Journal of Robotics Research, 2012, 31, 1176-1189.	5.8	52
86	Cautious greedy strategy for bearing-based active localization: Experiments and theoretical analysis. , 2012, , .		4
87	Efficient data collection from wireless nodes under the two-ring communication model. International Journal of Robotics Research, 2012, 31, 774-784.	5.8	15
88	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
89	Modeling human motion patterns for multi-robot planning. , 2012, , .		4
90	Energy-optimal velocity profiles for car-like robots. , 2011, , .		25

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91	Visibility-based deployment of robot formations for communication maintenance. , 2011, , .		35
92	Search and pursuit-evasion in mobile robotics. Autonomous Robots, 2011, 31, 299-316.	3.2	434
93	Guest editorial: special issue on search and pursuit-evasion with mobile robots. Autonomous Robots, 2011, 31, 297-298.	3.2	0
94	Robotic data mules for collecting data over sparse sensor fields. Journal of Field Robotics, 2011, 28, 388-404.	3.2	83
95	Building a Communication Bridge With Mobile Hubs. IEEE Transactions on Automation Science and Engineering, 2011, , .	3.4	4
96	Active target localization for bearing based robotic telemetry. , 2011, , .		21
97	Energy-Efficient Data Collection from Wireless Nodes Using Mobile Robots. Springer Tracts in Advanced Robotics, 2011, , 697-712.	0.3	1
98	Active target localization for bearing based robotic telemetry. , 2011, , .		0
99	A robotic system for monitoring carp in Minnesota lakes. Journal of Field Robotics, 2010, 27, 779-789.	3.2	47
100	Robotic Routers: Algorithms and Implementation. International Journal of Robotics Research, 2010, 29, 110-126.	5.8	40
101	Maintaining connectivity in environments with obstacles. , 2010, , .		10
102	A multi-robot system for unconfined video-conferencing. , 2010, , .		2
103	Predictive State Representations for grounding human-robot communication. , 2010, , .		4
104	A Robotic Sensor Network for monitoring carp in Minnesota lakes. , 2010, , .		15
105	Sensor Placement for Triangulation-Based Localization. IEEE Transactions on Automation Science and Engineering, 2010, 7, 681-685.	3.4	74
106	Data gathering tours for mobile robots. , 2009, , .		18
107	Using mobile robots to harvest data from sensor fields. IEEE Wireless Communications, 2009, 16, 22-28.	6.6	146
108	Probabilistic network formation through coverage and freeze-tag. Intelligent Service Robotics, 2009, 2, 265-273.	1.6	1

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109	Lion and man game in the presence of a circular obstacle. , 2009, , .		24
110	Building a Communication Bridge with Mobile Hubs. Lecture Notes in Computer Science, 2009, , 179-190.	1.0	5
111	The role of information in the cop-robber game. Theoretical Computer Science, 2008, 399, 179-190.	0.5	97
112	Controller design for human-robot interaction. Autonomous Robots, 2008, 24, 123-134.	3.2	18
113	Sensor Selection in Arbitrary Dimensions. IEEE Transactions on Automation Science and Engineering, 2008, 5, 651-660.	3.4	9
114	Bearing-only pursuit. , 2008, , .		8
115	Robotic routers. , 2008, , .		18
116	Triangulation Based Multi Target Tracking with Mobile Sensor Networks. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	32
117	Sensor Placement Algorithms for Triangulation Based Localization. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	10
118	Stochastic Event Capture Using Mobile Sensors Subject to a Quality Metric. , 2007, 23, 676-692.		65
119	Randomized Pursuit-Evasion with Local Visibility. SIAM Journal on Discrete Mathematics, 2006, 20, 26-41.	0.4	67
120	Stochastic event capture using mobile sensors subject to a quality metric. , 2006, , .		70
121	Building a 3D Virtual Museum of Native American Baskets. , 2006, , .		14
122	Target tracking with distributed sensors: The focus of attention problem. Computer Vision and Image Understanding, 2005, 100, 225-247.	3.0	37
123	Trinocular Stereo: A Real-Time Algorithm and its Evaluation. International Journal of Computer Vision, 2002, 47, 51-61.	10.9	44