

Dirk Wollherr

List of Publications by Year in descending order

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Version: 2024-02-01

156
papers

3,036
citations

361413

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h-index

330143

37
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158
all docs

158
docs citations

158
times ranked

2607
citing authors

#	ARTICLE	IF	CITATIONS
1	Stochastic Model Predictive Control With a Safety Guarantee for Automated Driving. IEEE Transactions on Intelligent Vehicles, 2023, 8, 22-36.	12.7	34
2	Minimum-time optimal control for battery electric vehicles with four wheel-independent drives considering electrical overloading. Vehicle System Dynamics, 2022, 60, 491-515.	3.7	10
3	Constrained Visual-Inertial Localization With Application And Benchmark in Laparoscopic Surgery. , 2022, , .		1
4	Disturbance estimation for robotic systems using continuous integral sliding mode observer. International Journal of Robust and Nonlinear Control, 2022, 32, 7946-7966.	3.7	3
5	An Online Robot Collision Detection and Identification Scheme by Supervised Learning and Bayesian Decision Theory. IEEE Transactions on Automation Science and Engineering, 2021, 18, 1144-1156.	5.2	33
6	Model Predictive Control with Models of Different Granularity and a Non-uniformly Spaced Prediction Horizon. , 2021, , .		6
7	Minimization of constraint violation probability in model predictive control. International Journal of Robust and Nonlinear Control, 2021, 31, 6740-6772.	3.7	7
8	Probabilistic model predictive control for extended prediction horizons. Automatisierungstechnik, 2021, 69, 759-770.	0.8	0
9	On the Frontier Between Kalman Conjecture and Markus-Yamabe Conjecture. , 2021, 5, 1309-1314.		2
10	MS2MP: A Min-Sum Message Passing Algorithm for Motion Planning. , 2021, , .		3
11	Globally Optimal Online Redundancy Resolution for Serial 7-DOF Kinematics Along SE(3) Trajectories. , 2021, , .		2
12	Collision Avoidance with Stochastic Model Predictive Control for Systems with a Twofold Uncertainty Structure. , 2021, , .		4
13	On the Stability of Nonlinear Wheel-Slip Zero Dynamics in Traction Control Systems. IEEE Transactions on Control Systems Technology, 2020, 28, 489-504.	5.2	15
14	Grid-Based Object Tracking With Nonlinear Dynamic State and Shape Estimation. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 2874-2893.	8.0	28
15	Integral Sliding-Mode Observer-Based Disturbance Estimation for Euler-Lagrangian Systems. IEEE Transactions on Control Systems Technology, 2020, 28, 2377-2389.	5.2	25
16	An Online Trajectory Generator on SE(3) for Human-Robot Collaboration. Robotica, 2020, 38, 1756-1777.	1.9	6
17	Minimum-time optimal control for vehicles with active rear-axle steering, transfer case and variable parameters. Vehicle System Dynamics, 2020, , 1-29.	3.7	6
18	A Concise and Geometrically Exact Planar Beam Model for Arbitrarily Large Elastic Deformation Dynamics. Frontiers in Robotics and AI, 2020, 7, 609478.	3.2	0

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19	Automated Nonlinear Control Structure Design by Domain of Attraction Maximization with Eigenvalue and Frequency Domain Specifications. Lecture Notes in Electrical Engineering, 2020, , 118-141.	0.4	1
20	Combined Robust and Stochastic Model Predictive Control for Models of Different Granularity. IFAC-PapersOnLine, 2020, 53, 7123-7129.	0.9	6
21	Engine-Based Input-Output Linearization for Traction Control Systems. IFAC-PapersOnLine, 2020, 53, 14055-14060.	0.9	3
22	Convexification of Semi-activity Constraints Applied to Minimum-time Optimal Control for Vehicles with Semi-active Limited-slip Differential. , 2020, , .		1
23	Haptic Object Identification for Advanced Manipulation Skills. Lecture Notes in Computer Science, 2020, , 128-140.	1.3	1
24	Safe Tracking Control of Euler-Lagrangian Systems Based on A Novel Adaptive Super-twisting Algorithm. IFAC-PapersOnLine, 2020, 53, 9974-9979.	0.9	2
25	Grid-Based Stochastic Model Predictive Control for Trajectory Planning in Uncertain Environments. , 2020, , .		7
26	Adaptation and Transfer of Robot Motion Policies for Close Proximity Human-Robot Interaction. Frontiers in Robotics and AI, 2019, 6, 69.	3.2	7
27	An Ontology for Human-Human Interactions and Learning Interaction Behavior Policies. ACM Transactions on Human-Robot Interaction, 2019, 8, 1-26.	4.1	3
28	Human-Like Motion Planning Based on Game Theoretic Decision Making. International Journal of Social Robotics, 2019, 11, 151-170.	4.6	33
29	A Hybrid Human-Robot Collaborative Environment for Recycling Electrical and Electronic Equipment. , 2019, , .		6
30	Nonlinear Traction Control Design, Stability Analysis and Experiments for Vehicles with On-Demand 4WD Torque Bias Systems. , 2019, , .		8
31	Efficient Closed-Form Task Space Manipulability for a 7-DOF Serial Robot. Robotics, 2019, 8, 98.	3.5	6
32	An Inverse Optimal Control Approach to Explain Human Arm Reaching Control Based on Multiple Internal Models. Scientific Reports, 2018, 8, 5583.	3.3	24
33	Combining Stochastic and Scenario Model Predictive Control to Handle Target Vehicle Uncertainty in an Autonomous Driving Highway Scenario. , 2018, , .		21
34	Legible Model Predictive Control for Autonomous Driving on Highways. IFAC-PapersOnLine, 2018, 51, 215-221.	0.9	5
35	Data Association for Grid-Based Object Tracking Using Particle Labeling. , 2018, , .		5
36	Learning Hand Movement Interaction Control Using RNNs: From HHI to HRI. IEEE Robotics and Automation Letters, 2018, 3, 4100-4107.	5.1	1

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37	A Hybrid Framework for Understanding and Predicting Human Reaching Motions. <i>Frontiers in Robotics and AI</i> , 2018, 5, 27.	3.2	9
38	Grid-Based Environment Estimation Using Evidential Mapping and Particle Tracking. <i>IEEE Transactions on Intelligent Vehicles</i> , 2018, 3, 384-396.	12.7	45
39	Nonlinear Control Structure Design using Grammatical Evolution and Lyapunov Equation based Optimization. , 2018, , .		0
40	Nonlinear Control Structure Design using Grammatical Evolution and Lyapunov Equation based Optimization. , 2018, , .		1
41	Socio-Contextual Constraints for Human Approach with a Mobile Robot. <i>International Journal of Social Robotics</i> , 2017, 9, 309-327.	4.6	10
42	Road geometry estimation for urban semantic maps using open data. <i>Advanced Robotics</i> , 2017, 31, 282-290.	1.8	6
43	A review of spatial reasoning and interaction for real-world robotics. <i>Advanced Robotics</i> , 2017, 31, 222-242.	1.8	37
44	Special issue on spatial reasoning and interaction for real-world robotics. <i>Advanced Robotics</i> , 2017, 31, 221-221.	1.8	1
45	Local elevation mapping for automated vehicles using lidar ray geometry and particle filters. , 2017, , .		2
46	Modeling and nonlinear control of antagonistically actuating pneumatic artificial muscles. , 2017, , .		2
47	A game-theoretic approach for adaptive action selection in close proximity human-robot-collaboration. , 2017, , .		21
48	Object tracking based on evidential dynamic occupancy grids in urban environments. , 2017, , .		39
49	Global localization of 3D point clouds in building outline maps of urban outdoor environments. <i>International Journal of Intelligent Robotics and Applications</i> , 2017, 1, 429-441.	2.8	6
50	Protective control for robot manipulator by sliding mode based disturbance reconstruction approach. , 2017, , .		1
51	Progressive stochastic motion planning for human-robot interaction. , 2017, , .		7
52	An online trajectory generator on SE(3) with magnitude constraints. , 2017, , .		0
53	Fast and close to optimal trajectory generation for articulated robots in reaching motions. , 2017, , .		1
54	Legible action selection in human-robot collaboration. , 2017, , .		6

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55	Motion recognition by natural language including success and failure of tasks for co-working robot with human. , 2017, , .		1
56	Introduction to the focused section on sensing and perception for autonomous and networked robotics. International Journal of Intelligent Robotics and Applications, 2017, 1, 369-371.	2.8	1
57	Hybrid Human Motion Prediction for Action Selection Within Human-Robot Collaboration. Springer Proceedings in Advanced Robotics, 2017, , 289-298.	1.3	2
58	Grammatical Evolution of Robust Controller Structures Using Wilson Scoring and Criticality Ranking. Lecture Notes in Computer Science, 2017, , 194-209.	1.3	2
59	Towards Assessing the Human Trajectory Planning Horizon. PLoS ONE, 2016, 11, e0167021.	2.5	8
60	Local elevation mapping based on low mounted lidar sensors with narrow vertical field of view. , 2016, , .		2
61	Evidential Grid-Based Tracking and Mapping. IEEE Transactions on Intelligent Transportation Systems, 2016, , 1-14.	8.0	37
62	Measuring the Effectiveness of Readability for Mobile Robot Locomotion. International Journal of Social Robotics, 2016, 8, 721-741.	4.6	19
63	Built-in hyperspectral camera for smartphone in visible, near-infrared and middle-infrared lights region (third report): spectroscopic imaging for broad-area and real-time componential analysis system against local unexpected terrorism and disasters. , 2016, , .		1
64	A Combined Model- and Learning-Based Framework for Interaction-Aware Maneuver Prediction. IEEE Transactions on Intelligent Transportation Systems, 2016, 17, 1538-1550.	8.0	127
65	Closed-loop safety assessment of uncertain roadmaps. Autonomous Robots, 2016, 40, 267-289.	4.8	3
66	Modeling Laser Intensities For Simultaneous Localization and Mapping. IEEE Robotics and Automation Letters, 2016, 1, 692-699.	5.1	34
67	A Game-Theoretic Approach to Replanning-Aware Interactive Scene Prediction and Planning. IEEE Transactions on Vehicular Technology, 2016, 65, 3981-3992.	6.3	83
68	Understanding Human Avoidance Behavior: Interaction-Aware Decision Making Based on Game Theory. International Journal of Social Robotics, 2016, 8, 331-351.	4.6	43
69	Grid-Based Multi-Road-Course Estimation Using Motion Planning. IEEE Transactions on Vehicular Technology, 2016, 65, 1924-1935.	6.3	10
70	Adaptive rectangular cuboids for 3D mapping. , 2015, , .		8
71	IURO â€“ Soziale Mensch-Roboter-Interaktion in den StraÃŸen von MÃ¼nchen. Automatisierungstechnik, 2015, 63, 231-242.	0.8	3
72	The Interactive Urban Robot: User-centered development and final field trial of a direction requesting robot. Paladyn, 2015, 6, .	2.7	9

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73	An approach to integrate human motion prediction into local obstacle avoidance in close human-robot collaboration. , 2015, , .		14
74	Please take over! An analysis and strategy for a driver take over request during autonomous driving. , 2015, , .		19
75	Investigating similarity measures for locomotor trajectories based on the human perception of differences in motions. , 2015, , .		3
76	IBUILD: Incremental bag of Binary words for appearance based loop closure detection. , 2015, , .		64
77	Can You Read My Face?. International Journal of Social Robotics, 2015, 7, 63-76.	4.6	15
78	A prediction-based reactive driving strategy for highly automated driving function on freeways. , 2014, , .		39
79	Grid-based mapping and tracking in dynamic environments using a uniform evidential environment representation. , 2014, , .		53
80	Environment-based trajectory clustering to extract principal directions for autonomous vehicles. , 2014, , .		6
81	Interactive navigation of humans from a game theoretic perspective. , 2014, , .		12
82	Determining states of inevitable collision using reachability analysis. , 2014, , .		20
83	RMAP: a rectangular cuboid approximation framework for 3D environment mapping. Autonomous Robots, 2014, 37, 261-277.	4.8	16
84	Efficient Evaluation of Collisions and Costs on Grid Maps for Autonomous Vehicle Motion Planning. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 2249-2260.	8.0	26
85	Using penalized spline regression to calculate mean trajectories including confidence intervals of human motion data. , 2014, , .		5
86	Increasing Helpfulness towards a Robot by Emotional Adaption to the User. International Journal of Social Robotics, 2013, 5, 457-476.	4.6	46
87	Dynamic contact force/torque observer: Sensor fusion for improved interaction control. International Journal of Robotics Research, 2013, 32, 446-457.	8.5	27
88	Road course estimation in unknown, structured environments. , 2013, , .		13
89	Path planning on grid maps with unknown goal poses. , 2013, , .		15
90	Energy optimal control to approach traffic lights. , 2013, , .		16

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91	Interactive scene prediction for automotive applications. , 2013, , .		71
92	Route description interpretation on automatically labeled robot maps. , 2013, , .		3
93	Proactively Approaching Pedestrians with an Autonomous Mobile Robot in Urban Environments. Springer Tracts in Advanced Robotics, 2013, , 199-214.	0.4	21
94	Feedback guidelines for multimodal human-robot interaction: How should a robot give feedback when asking for directions?. , 2012, , .		8
95	An emotional adaption approach to increase helpfulness towards a robot. , 2012, , .		37
96	PIRF 3D: Online spatial and appearance based loop closure. , 2012, , .		1
97	Lane-based safety assessment of road scenes using Inevitable Collision States. , 2012, , .		13
98	Proactive human approach in dynamic environments. , 2012, , .		2
99	MuRoCo: A Framework for Capability- and Situation-Aware Coalition Formation in Cooperative Multi-Robot Systems. Journal of Intelligent and Robotic Systems: Theory and Applications, 2012, 67, 339-370.	3.4	6
100	Towards transferability of theories on prosocial behavior from Social Psychology to HRI. , 2012, , .		4
101	An optimization approach for 3D environment mapping using normal vector uncertainty. , 2012, , .		0
102	Maneuver-based risk assessment for high-speed automotive scenarios. , 2012, , .		8
103	On-line Trajectory Generation for Safe and Optimal Vehicle Motion Planning. Informatik Aktuell, 2012, , 99-107.	0.6	9
104	Online Semantic Mapping of Urban Environments. Lecture Notes in Computer Science, 2012, , 54-73.	1.3	3
105	Safety assessment of robot trajectories for navigation in uncertain and dynamic environments. Autonomous Robots, 2012, 32, 285-302.	4.8	72
106	Impacts of Multimodal Feedback on Efficiency of Proactive Information Retrieval from Task-Related HRI. Journal of Advanced Computational Intelligence and Intelligent Informatics, 2012, 16, 313-326.	0.9	3
107	Robot Basketball " A New Challenge for Real-Time Control. , 2012, , 307-322.		0
108	Dynamic Window Approach for omni-directional robots with polygonal shape. , 2011, , .		6

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109	Real-time 3D hand gesture interaction with a robot for understanding directions from humans. , 2011, , .		101
110	Revealing Cluster Formation over Huge Volatile Robotic Data. , 2011, , .		2
111	Improving aspects of empathy and subjective performance for HRI through mirroring facial expressions. , 2011, , .		55
112	Dialog strategies for handling miscommunication in task-related HRI. , 2011, , .		3
113	Safety assessment of trajectories for navigation in uncertain and dynamic environments. , 2011, , .		21
114	Following route graphs in urban environments. , 2011, , .		6
115	Computing unions of Inevitable Collision States and increasing safety to unexpected obstacles. , 2011, , .		3
116	System interdependence analysis for autonomous robots. International Journal of Robotics Research, 2011, 30, 601-614.	8.5	4
117	TOWARD DYNAMIC MANIPULATION FOR HUMANOID ROBOTS: EXPERIMENTS AND DESIGN ASPECTS. International Journal of Humanoid Robotics, 2011, 08, 513-532.	1.1	2
118	Computing unions of Inevitable Collision States and increasing safety to unexpected obstacles. , 2011, , .		0
119	A Framework for Information Distribution, Task Execution and Decision Making in Multi-Robot Systems. IEICE Transactions on Information and Systems, 2010, E93-D, 1352-1360.	0.7	7
120	Probabilistic collision state checker for crowded environments. , 2010, , .		39
121	Ball dribbling with an underactuated continuous-time control phase. , 2010, , .		4
122	Safety verification of autonomous vehicles for coordinated evasive maneuvers. , 2010, , .		51
123	Interconnected performance optimization in complex robotic systems. , 2010, , .		2
124	Humanoide Robotik. Automatisierungstechnik, 2010, 58, 611-612.	0.8	0
125	Wenn Roboter nach dem Weg fragen. Automatisierungstechnik, 2010, 58, 647-656.	0.8	1
126	Robots asking for directions " The willingness of passers-by to support robots. , 2010, , .		28

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127	Dynamic manipulation: Nonprehensile ball catching. , 2010, , .		29
128	Ball dribbling with an underactuated continuous-time control phase: Theory & experiments. , 2010, , .		5
129	Towards a dialog strategy for handling miscommunication in human-robot dialog. , 2010, , .		6
130	Robots asking for directions. , 2010, , .		26
131	The Autonomous City Explorer (ACE) project — mobile robot navigation in highly populated urban environments. , 2009, , .		37
132	Realtime segmentation of range data using continuous nearest neighbors. , 2009, , .		52
133	The Autonomous City Explorer project. , 2009, , .		5
134	Joint Dominance Coefficients: A Sensitivity-Based Measure for Ranking Robotic Degrees of Freedom. , 2009, , 1-10.		1
135	The Autonomous City Explorer: Towards Natural Human-Robot Interaction in Urban Environments. International Journal of Social Robotics, 2009, 1, 127-140.	4.6	85
136	Comparison of surface normal estimation methods for range sensing applications. , 2009, , .		177
137	Information retrieval system for human-robot communication - Asking for directions. , 2009, , .		10
138	Robot basketball: A comparison of ball dribbling with visual and force/torque feedback. , 2009, , .		9
139	System interdependence analysis for autonomous mobile robots. , 2009, , .		7
140	Robot Basketball: Ball Dribbling â€™ A Modified Juggling Task. , 2009, , 323-334.		9
141	A methodological variation for acceptance evaluation of Human-Robot Interaction in public places. , 2008, , .		60
142	A clustering method for efficient segmentation of 3D laser data. , 2008, , .		120
143	HUMANâ€™ROBOT COLLABORATION: A SURVEY. International Journal of Humanoid Robotics, 2008, 05, 47-66.	1.1	328
144	Bayesian state estimation and behavior selection for autonomous robotic exploration in dynamic environments. , 2008, , .		12

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145	Basketball robot: Ball-On-Plate with pure haptic information. , 2008, , .		10
146	Probabilistic mapping of dynamic obstacles using Markov chains for replanning in dynamic environments. , 2008, , .		33
147	Combined Trajectory Planning and Gaze Direction Control for Robotic Exploration. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	9
148	The autonomous city explorer project: aims and system overview. , 2007, , .		27
149	Information-Based Gaze Direction Planning Algorithm for SLAM. , 2006, , .		8
150	Cost-oriented virtual reality and real-time control system architecture. Robotica, 2003, 21, 289-294.	1.9	10
151	Rollover avoidance for steerable vehicles by invariance control. , 2001, , .		13
152	Cost Oriented VR-Simulation Environment for Computer Aided Control Design. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 40-46.	0.4	2
153	Research and development towards an autonomous biped walking robot. , 0, , .		2
154	Active-passive knee control for the humanoid UT-Theta. , 0, , .		4
155	Quadratization and Roof Duality of Markov Logic Networks. Journal of Artificial Intelligence Research, 0, 55, 685-714.	7.0	0
156	Space splitting convexification: a local solution method for nonconvex optimal control problems. International Journal of Control, 0, , 1-24.	1.9	0