

J Christian Gerdes

List of Publications by Year in Descending Order

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Version: 2024-04-25

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

56
papers

2,207
citations

26
h-index

46
g-index

62
ext. papers

2,842
ext. citations

5
avg, IF

5.64
L-index

#	Paper	IF	Citations
56	High Speed Emulation in a Vehicle-in-the-Loop Driving Simulator. <i>IEEE Transactions on Intelligent Vehicles</i> , 2022 , 1-1	5	1
55	Neural Network Model Predictive Motion Control Applied to Automated Driving With Unknown Friction. <i>IEEE Transactions on Control Systems Technology</i> , 2021 , 1-12	4.8	5
54	Long-Horizon Vehicle Motion Planning and Control Through Serially Cascaded Model Complexity. <i>IEEE Transactions on Control Systems Technology</i> , 2021 , 1-14	4.8	2
53	. <i>IEEE Transactions on Robotics</i> , 2021 , 37, 1313-1325	6.5	10
52	Impacts of Model Fidelity on Trajectory Optimization for Autonomous Vehicles in Extreme Maneuvers. <i>IEEE Transactions on Intelligent Vehicles</i> , 2021 , 6, 546-558	5	4
51	Learning at the Racetrack: Data-Driven Methods to Improve Racing Performance Over Multiple Laps. <i>IEEE Transactions on Vehicular Technology</i> , 2020 , 69, 8232-8242	6.8	6
50	Toward Automated Vehicle Control Beyond the Stability Limits: Drifting Along a General Path. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2020 , 142,	1.6	16
49	Robust Stabilization and Collision Avoidance through Minimizing Open-Loop Velocity Uncertainty 2020 ,		1
48	Coordinating Tire Forces to Avoid Obstacles Using Nonlinear Model Predictive Control. <i>IEEE Transactions on Intelligent Vehicles</i> , 2020 , 5, 21-31	5	15
47	Toward Closing the Loop on Human Values. <i>IEEE Transactions on Intelligent Vehicles</i> , 2019 , 4, 437-446	5	2
46	A Hybrid Control Design for Autonomous Vehicles at Uncontrolled Crosswalks 2019 ,		5
45	Neural network vehicle models for high-performance automated driving. <i>Science Robotics</i> , 2019 , 4,	18.6	55
44	From the Racetrack to the Road: Real-Time Trajectory Replanning for Autonomous Driving. <i>IEEE Transactions on Intelligent Vehicles</i> , 2019 , 4, 309-320	5	27
43	Vehicle control synthesis using phase portraits of planar dynamics. <i>Vehicle System Dynamics</i> , 2019 , 57, 1318-1337	2.8	31
42	Mind over motor mapping: Driver response to changing vehicle dynamics. <i>Human Brain Mapping</i> , 2018 , 39, 3915-3927	5.9	13
41	Safe driving envelopes for path tracking in autonomous vehicles. <i>Control Engineering Practice</i> , 2017 , 61, 307-316	3.9	152
40	Neural, physiological, and behavioral correlates of visuomotor cognitive load. <i>Scientific Reports</i> , 2017 , 7, 8866	4.9	24

39	A synthetic input approach to slip angle based steering control for autonomous vehicles 2017 ,		5
38	Path-tracking for autonomous vehicles at the limit of friction 2017 ,		27
37	Insights into vehicle trajectories at the handling limits: analysing open data from race car drivers. <i>Vehicle System Dynamics</i> , 2017 , 55, 191-207	2.8	12
36	Collision Avoidance and Stabilization for Autonomous Vehicles in Emergency Scenarios. <i>IEEE Transactions on Control Systems Technology</i> , 2017 , 25, 1204-1216	4.8	176
35	Incorporating Ethical Considerations Into Automated Vehicle Control. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2017 , 18, 1429-1439	6.1	37
34	Analysis of Feasible Tire Force Regions for Optimal Tire Force Allocation with Limited Actuation. <i>IEEE Intelligent Transportation Systems Magazine</i> , 2017 , 9, 75-87	2.6	2
33	Prescriptive and proscriptive moral regulation for autonomous vehicles in approach and avoidance 2016 ,		2
32	Simultaneous stabilization and tracking of basic automobile drifting trajectories 2016 ,		18
31	Design of Variable Vehicle Handling Characteristics Using Four-Wheel Steer-by-Wire. <i>IEEE Transactions on Control Systems Technology</i> , 2016 , 24, 1529-1540	4.8	38
30	Predictive Haptic Feedback for Obstacle Avoidance Based on Model Predictive Control. <i>IEEE Transactions on Automation Science and Engineering</i> , 2016 , 13, 26-31	4.9	24
29	Motor learning affects car-to-driver handover in automated vehicles. <i>Science Robotics</i> , 2016 , 1,	18.6	57
28	A Sequential Two-Step Algorithm for Fast Generation of Vehicle Racing Trajectories. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2016 , 138,	1.6	39
27	Design of a feedback-feedforward steering controller for accurate path tracking and stability at the limits of handling. <i>Vehicle System Dynamics</i> , 2015 , 53, 1687-1704	2.8	111
26	Autonomous vehicle control for emergency maneuvers: The effect of topography 2015 ,		13
25	Path tracking of highly dynamic autonomous vehicle trajectories via iterative learning control 2015 ,		22
24	Designing Steering Feel for Steer-by-Wire Vehicles Using Objective Measures. <i>IEEE/ASME Transactions on Mechatronics</i> , 2015 , 20, 373-383	5.5	66
23	An analytical method for reducing combustion instability in homogeneous charge compression ignition engines through cycle-to-cycle control. <i>International Journal of Engine Research</i> , 2015 , 16, 485-500	2.7	5
22	Cooperative Collision Avoidance via proximal message passing 2015 ,		14

21	Creating predictive haptic feedback for obstacle avoidance using a model predictive control (MPC) framework 2015 ,		2
20	A Controller Framework for Autonomous Drifting: Design, Stability, and Experimental Validation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2014 , 136,	1.6	28
19	Model Predictive Control for Vehicle Stabilization at the Limits of Handling. <i>IEEE Transactions on Control Systems Technology</i> , 2013 , 21, 1258-1269	4.8	229
18	Staying within the nullcline boundary for vehicle envelope control using a sliding surface. <i>Vehicle System Dynamics</i> , 2013 , 51, 199-217	2.8	43
17	Using the centre of percussion to design a steering controller for an autonomous race car. <i>Vehicle System Dynamics</i> , 2012 , 50, 33-51	2.8	70
16	Autonomous vehicle control at the limits of handling. <i>International Journal of Vehicle Autonomous Systems</i> , 2012 , 10, 271	0.4	112
15	Up to the limits: Autonomous Audi TTS 2012 ,		60
14	Nonlinear Optimization of a Racing Line for an Autonomous Racecar Using Professional Driving Techniques 2012 ,		4
13	Modeling and Control of an Exhaust Recompression HCCI Engine Using Split Injection. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2012 , 134,	1.6	16
12	Implementation and Analysis of a Repetitive Controller for an Electro-Hydraulic Engine Valve System. <i>IEEE Transactions on Control Systems Technology</i> , 2011 , 19, 1102-1113	4.8	26
11	Control of exhaust recompression HCCI using hybrid model predictive control 2011 ,		11
10	Analysis and control of high sideslip manoeuvres. <i>Vehicle System Dynamics</i> , 2010 , 48, 317-336	2.8	44
9	Modeling and control of exhaust recompression HCCI using split injection 2010 ,		6
8	Predictive control of vehicle roll dynamics with rear wheel steering 2010 ,		4
7	Model-Based Control of HCCI Engines Using Exhaust Recompression. <i>IEEE Transactions on Control Systems Technology</i> , 2010 , 18, 1289-1302	4.8	51
6	Estimation of Tire Slip Angle and Friction Limits Using Steering Torque. <i>IEEE Transactions on Control Systems Technology</i> , 2010 , 18, 896-907	4.8	105
5	Physics-Based Modeling and Control of Residual-Affected HCCI Engines. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2009 , 131,	1.6	35
4	Handwheel Force Feedback for Lanekeeping Assistance: Combined Dynamics and Stability. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2006 , 128, 532-542	1.6	45

3	Integrating INS Sensors With GPS Measurements for Continuous Estimation of Vehicle Sideslip, Roll, and Tire Cornering Stiffness. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2006 , 7, 483-493	6.1	196
2	Dynamic Modeling of Residual-Affected Homogeneous Charge Compression Ignition Engines with Variable Valve Actuation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2005 , 127, 374-381	1.6	59
1	A New Yaw Dynamic Model for Improved High Speed Control of a Farm Tractor. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2002 , 124, 659-667	1.6	22