

Francesco Borrelli

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1878121/publications.pdf>

Version: 2024-02-01

87
papers

5,309
citations

236925

25
h-index

345221

36
g-index

88
all docs

88
docs citations

88
times ranked

3874
citing authors

#	ARTICLE	IF	CITATIONS
1	Kinematic and dynamic vehicle models for autonomous driving control design. , 2015, , .		420
2	Distributed Model Predictive Control for Heterogeneous Vehicle Platoons Under Unidirectional Topologies. IEEE Transactions on Control Systems Technology, 2017, 25, 899-910.	5.2	383
3	Model Predictive Control for the Operation of Building Cooling Systems. IEEE Transactions on Control Systems Technology, 2012, 20, 796-803.	5.2	356
4	MPC-based yaw and lateral stabilisation via active front steering and braking. Vehicle System Dynamics, 2008, 46, 611-628.	3.7	303
5	Distributed LQR Design for Identical Dynamically Decoupled Systems. IEEE Transactions on Automatic Control, 2008, 53, 1901-1912.	5.7	240
6	Learning Model Predictive Control for Iterative Tasks. A Data-Driven Control Framework. IEEE Transactions on Automatic Control, 2018, 63, 1883-1896.	5.7	191
7	Stochastic Model Predictive Control for Building HVAC Systems: Complexity and Conservatism. IEEE Transactions on Control Systems Technology, 2015, 23, 101-116.	5.2	171
8	A Learning-Based Framework for Velocity Control in Autonomous Driving. IEEE Transactions on Automation Science and Engineering, 2016, 13, 32-42.	5.2	165
9	A tube-based robust nonlinear predictive control approach to semiautonomous ground vehicles. Vehicle System Dynamics, 2014, 52, 802-823.	3.7	156
10	Predictive control for agile semi-autonomous ground vehicles using motion primitives. , 2012, , .		129
11	A Model Predictive Control Approach for Virtual Coupling in Railways. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 2728-2739.	8.0	129
12	An auto-generated nonlinear MPC algorithm for real-time obstacle avoidance of ground vehicles. , 2013, , .		102
13	Model Predictive Control of thermal energy storage in building cooling systems. , 2009, , .		100
14	Implementation of model predictive control for an HVAC system in a mid-size commercial building. HVAC and R Research, 2014, 20, 121-135.	0.6	95
15	Semiautonomous Vehicular Control Using Driver Modeling. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 2696-2709.	8.0	89
16	Predictive control of an autonomous ground vehicle using an iterative linearization approach. , 2013, , .		86
17	Driver models for personalised driving assistance. Vehicle System Dynamics, 2015, 53, 1705-1720.	3.7	84
18	A Novel Approach for Vehicle Inertial Parameter Identification Using a Dual Kalman Filter. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 151-161.	8.0	80

#	ARTICLE	IF	CITATIONS
19	A machine learning approach for personalized autonomous lane change initiation and control. , 2017, , .		72
20	Tyreâ€“road friction coefficient estimation based on tyre sensors and lateral tyre deflection: modelling, simulations and experiments. Vehicle System Dynamics, 2013, 51, 627-647.	3.7	71
21	Autonomous racing using learning Model Predictive Control. , 2017, , .		71
22	A Unified Approach to Threat Assessment and Control for Automotive Active Safety. IEEE Transactions on Intelligent Transportation Systems, 2013, 14, 1490-1499.	8.0	67
23	Data-Driven Predictive Control for Autonomous Systems. Annual Review of Control, Robotics, and Autonomous Systems, 2018, 1, 259-286.	11.8	59
24	Learning How to Autonomously Race a Car: A Predictive Control Approach. IEEE Transactions on Control Systems Technology, 2020, 28, 2713-2719.	5.2	54
25	Safe semi-autonomous control with enhanced driver modeling. , 2012, , .		50
26	A distributed predictive control approach to building temperature regulation. , 2011, , .		43
27	Human-Centered Risk Assessment of an Automated Vehicle Using Vehicular Wireless Communication. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 667-681.	8.0	43
28	A model predictive controller for non-cooperative eco-platooning. , 2017, , .		41
29	An Adaptive Approach to Real-Time Estimation of Vehicle Sideslip, Road Bank Angles, and Sensor Bias. IEEE Transactions on Vehicular Technology, 2019, 68, 7443-7454.	6.3	41
30	Learning Model Predictive Control for Iterative Tasks: A Computationally Efficient Approach for Linear System. IFAC-PapersOnLine, 2017, 50, 3142-3147.	0.9	37
31	Design and Implementation of Ecological Adaptive Cruise Control for Autonomous Driving with Communication to Traffic Lights. , 2019, , .		36
32	Autonomous car following: A learning-based approach. , 2015, , .		34
33	Fast stochastic MPC with optimal risk allocation applied to building control systems. , 2012, , .		33
34	Reference Tracking With Guaranteed Error Bound for Constrained Linear Systems. IEEE Transactions on Automatic Control, 2016, 61, 2245-2250.	5.7	33
35	Repetitive learning model predictive control: An autonomous racing example. , 2017, , .		33
36	A predictive control framework for torque-based steering assistance to improve safety in highway driving. Vehicle System Dynamics, 2018, 56, 810-831.	3.7	33

#	ARTICLE	IF	CITATIONS
37	Safety Augmented Value Estimation From Demonstrations (SAVED): Safe Deep Model-Based RL for Sparse Cost Robotic Tasks. IEEE Robotics and Automation Letters, 2020, 5, 3612-3619.	5.1	33
38	Analysis of local optima in predictive control for energy efficient buildings. Journal of Building Performance Simulation, 2013, 6, 236-255.	2.0	30
39	Integrated threat assessment and control design for roadway departure avoidance. , 2012, , .		29
40	Modeling, Identification, and Predictive Control of a Driver Steering Assistance System. IEEE Transactions on Human-Machine Systems, 2017, 47, 700-710.	3.5	26
41	Model predictive control for the operation of building cooling systems. , 2010, , .		25
42	Analysis of local optima in predictive control for energy efficient buildings. , 2011, , .		25
43	Building temperature distributed control via explicit MPC and "Trim and Respond" methods. , 2013, , .		25
44	Adaptive MPC for Iterative Tasks. , 2018, , .		24
45	Robust vehicle lateral stabilisation via set-based methods for uncertain piecewise affine systems. Vehicle System Dynamics, 2012, 50, 861-882.	3.7	22
46	Real-time Ecological Velocity Planning for Plug-in Hybrid Vehicles with Partial Communication to Traffic Lights. , 2019, , .		21
47	Vehicle inertial parameter identification using Extended and unscented Kalman Filters. , 2013, , .		18
48	Robust learning model predictive control for iterative tasks: Learning from experience. , 2017, , .		18
49	Adaptive Stochastic MPC Under Time-Varying Uncertainty. IEEE Transactions on Automatic Control, 2021, 66, 2840-2845.	5.7	18
50	Adaptive MPC with Chance Constraints for FIR Systems. , 2018, , .		17
51	Scanning and tracking with independent cameras" a biologically motivated approach based on model predictive control. Autonomous Robots, 2008, 24, 285-302.	4.8	16
52	Scenario-based approach to stochastic linear predictive control. , 2012, , .		16
53	A primal-dual active-set method for distributed model predictive control. Optimal Control Applications and Methods, 2017, 38, 399-419.	2.1	15
54	An adaptive and predictive controller design for lateral control of an autonomous vehicle. , 2017, , .		14

#	ARTICLE	IF	CITATIONS
55	A Hybrid Control Design for Autonomous Vehicles at Uncontrolled Crosswalks. , 2019, , .		14
56	Modeling driver behavior during complex maneuvers. , 2013, , .		12
57	Robust Learning Model-Predictive Control for Linear Systems Performing Iterative Tasks. IEEE Transactions on Automatic Control, 2022, 67, 856-869.	5.7	12
58	On a Property of a Class of Offset-Free Model Predictive Controllers. IEEE Transactions on Automatic Control, 2009, 54, 663-669.	5.7	11
59	Distributed averaging with flow constraints. , 2011, , .		11
60	Robust vehicle lateral stabilization via set-based methods for uncertain piecewise affine systems: Experimental results. , 2011, , .		11
61	Sample-Based Learning Model Predictive Control for Linear Uncertain Systems. , 2019, , .		11
62	Cartesian thrust allocation algorithm with variable direction thrusters, turn rate limits and singularity avoidance. , 2014, , .		9
63	Compact Cooperative Adaptive Cruise Control for Energy Saving: Air Drag Modelling and Simulation. IEEE Transactions on Vehicular Technology, 2021, 70, 9838-9848.	6.3	9
64	A Bayesian filter for modeling traffic at stop intersections. , 2015, , .		8
65	Minimum time learning model predictive control. International Journal of Robust and Nonlinear Control, 2021, 31, 8830-8854.	3.7	8
66	Data-Driven Hierarchical Predictive Learning in Unknown Environments. , 2020, , .		8
67	A reference governor approach for constrained piecewise affine systems. , 2009, , .		8
68	Decentralized Robust Control Invariance for a Network of Storage Devices. IEEE Transactions on Automatic Control, 2012, 57, 1018-1024.	5.7	7
69	Robust Model Predictive Control with Adjustable Uncertainty Sets. , 2018, , .		7
70	Learning Model Predictive Control for Periodic Repetitive Tasks. , 2020, , .		7
71	Task Decomposition for Iterative Learning Model Predictive Control. , 2020, , .		7
72	On the complexity of explicit MPC laws. , 2009, , .		6

#	ARTICLE	IF	CITATIONS
73	Distributed Learning Model Predictive Control for Linear Systems. , 2020, , .		6
74	Learning to Satisfy Unknown Constraints in Iterative MPC. , 2020, , .		6
75	Robust invariant set theory applied to networked buffer-level control. , 2008, , .		5
76	Robust Eco Adaptive Cruise Control for Cooperative Vehicles. , 2019, , .		5
77	Data-Driven Strategies for Hierarchical Predictive Control in Unknown Environments. IEEE Transactions on Automation Science and Engineering, 2022, 19, 1434-1445.	5.2	5
78	On the Computation of Linear Model Predictive Control Laws. , 2009, , .		3
79	Eco-routing of connected plug-in hybrid electric vehicles. , 2019, , .		3
80	Observer pole placement limitations for a class of offset-free model predictive controllers. , 2008, , .		2
81	Parallel nonlinear predictive control. , 2012, , .		2
82	Vehicle Localization and Control on Roads with Prior Grade Map. , 2018, , .		2
83	Simple Policy Evaluation for Data-Rich Iterative Tasks. , 2019, , .		1
84	Output-Lifted Learning Model Predictive Control. IFAC-PapersOnLine, 2021, 54, 365-370.	0.9	1
85	Decentralized robust control invariance for a network of integrators. , 2010, , .		0
86	Sufficient conditions for complexity reduction in min-max control of constrained uncertain linear systems. , 2012, , .		0
87	Optimality of certainty equivalence in expected value problems for uncertain linear systems. , 2014, , .		0