

Francesco Borrelli

List of Publications by Year in descending order

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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	Robust Learning Model-Predictive Control for Linear Systems Performing Iterative Tasks. IEEE Transactions on Automatic Control, 2022, 67, 856-869.	5.7	12
2	Data-Driven Strategies for Hierarchical Predictive Control in Unknown Environments. IEEE Transactions on Automation Science and Engineering, 2022, 19, 1434-1445.	5.2	5
3	Minimum time learning model predictive control. International Journal of Robust and Nonlinear Control, 2021, 31, 8830-8854.	3.7	8
4	Adaptive Stochastic MPC Under Time-Varying Uncertainty. IEEE Transactions on Automatic Control, 2021, 66, 2840-2845.	5.7	18
5	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
6	Output-Lifted Learning Model Predictive Control. IFAC-PapersOnLine, 2021, 54, 365-370.	0.9	1
7	Learning How to Autonomously Race a Car: A Predictive Control Approach. IEEE Transactions on Control Systems Technology, 2020, 28, 2713-2719.	5.2	54
8	Learning Model Predictive Control for Periodic Repetitive Tasks. , 2020, , .		7
9	Data-Driven Hierarchical Predictive Learning in Unknown Environments. , 2020, , .		8
10	Task Decomposition for Iterative Learning Model Predictive Control. , 2020, , .		7
11	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
12	Distributed Learning Model Predictive Control for Linear Systems. , 2020, , .		6
13	Learning to Satisfy Unknown Constraints in Iterative MPC. , 2020, , .		6
14	Robust Eco Adaptive Cruise Control for Cooperative Vehicles. , 2019, , .		5
15	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
16	A Hybrid Control Design for Autonomous Vehicles at Uncontrolled Crosswalks. , 2019, , .		14
17	A Model Predictive Control Approach for Virtual Coupling in Railways. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 2728-2739.	8.0	129
18	Sample-Based Learning Model Predictive Control for Linear Uncertain Systems. , 2019, , .		11

#	ARTICLE	IF	CITATIONS
19	Real-time Ecological Velocity Planning for Plug-in Hybrid Vehicles with Partial Communication to Traffic Lights. , 2019, , .		21
20	Eco-routing of connected plug-in hybrid electric vehicles. , 2019, , .		3
21	Simple Policy Evaluation for Data-Rich Iterative Tasks. , 2019, , .		1
22	Design and Implementation of Ecological Adaptive Cruise Control for Autonomous Driving with Communication to Traffic Lights. , 2019, , .		36
23	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
24	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
25	Learning Model Predictive Control for Iterative Tasks. A Data-Driven Control Framework. IEEE Transactions on Automatic Control, 2018, 63, 1883-1896.	5.7	191
26	Adaptive MPC for Iterative Tasks. , 2018, , .		24
27	Vehicle Localization and Control on Roads with Prior Grade Map. , 2018, , .		2
28	Robust Model Predictive Control with Adjustable Uncertainty Sets. , 2018, , .		7
29	Adaptive MPC with Chance Constraints for FIR Systems. , 2018, , .		17
30	Data-Driven Predictive Control for Autonomous Systems. Annual Review of Control, Robotics, and Autonomous Systems, 2018, 1, 259-286.	11.8	59
31	A primal-dual active-set method for distributed model predictive control. Optimal Control Applications and Methods, 2017, 38, 399-419.	2.1	15
32	An adaptive and predictive controller design for lateral control of an autonomous vehicle. , 2017, , .		14
33	A machine learning approach for personalized autonomous lane change initiation and control. , 2017, , .		72
34	Modeling, Identification, and Predictive Control of a Driver Steering Assistance System. IEEE Transactions on Human-Machine Systems, 2017, 47, 700-710.	3.5	26
35	Distributed Model Predictive Control for Heterogeneous Vehicle Platoons Under Unidirectional Topologies. IEEE Transactions on Control Systems Technology, 2017, 25, 899-910.	5.2	383
36	Learning Model Predictive Control for Iterative Tasks: A Computationally Efficient Approach for Linear System. IFAC-PapersOnLine, 2017, 50, 3142-3147.	0.9	37

#	ARTICLE	IF	CITATIONS
37	Autonomous racing using learning Model Predictive Control. , 2017, , .		71
38	Robust learning model predictive control for iterative tasks: Learning from experience. , 2017, , .		18
39	Repetitive learning model predictive control: An autonomous racing example. , 2017, , .		33
40	A model predictive controller for non-cooperative eco-platooning. , 2017, , .		41
41	A Learning-Based Framework for Velocity Control in Autonomous Driving. IEEE Transactions on Automation Science and Engineering, 2016, 13, 32-42.	5.2	165
42	Reference Tracking With Guaranteed Error Bound for Constrained Linear Systems. IEEE Transactions on Automatic Control, 2016, 61, 2245-2250.	5.7	33
43	Kinematic and dynamic vehicle models for autonomous driving control design. , 2015, , .		420
44	Driver models for personalised driving assistance. Vehicle System Dynamics, 2015, 53, 1705-1720.	3.7	84
45	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
46	Autonomous car following: A learning-based approach. , 2015, , .		34
47	A Bayesian filter for modeling traffic at stop intersections. , 2015, , .		8
48	Stochastic Model Predictive Control for Building HVAC Systems: Complexity and Conservatism. IEEE Transactions on Control Systems Technology, 2015, 23, 101-116.	5.2	171
49	Semiautonomous Vehicular Control Using Driver Modeling. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 2696-2709.	8.0	89
50	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
51	A tube-based robust nonlinear predictive control approach to semiautonomous ground vehicles. Vehicle System Dynamics, 2014, 52, 802-823.	3.7	156
52	Cartesian thrust allocation algorithm with variable direction thrusters, turn rate limits and singularity avoidance. , 2014, , .		9
53	Optimality of certainty equivalence in expected value problems for uncertain linear systems. , 2014, , .		0
54	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

#	ARTICLE	IF	CITATIONS
55	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
56	Analysis of local optima in predictive control for energy efficient buildings. Journal of Building Performance Simulation, 2013, 6, 236-255.	2.0	30
57	Predictive control of an autonomous ground vehicle using an iterative linearization approach. , 2013, , .		86
58	Modeling driver behavior during complex maneuvers. , 2013, , .		12
59	Vehicle inertial parameter identification using Extended and unscented Kalman Filters. , 2013, , .		18
60	Building temperature distributed control via explicit MPC and Trim and Respond methods. , 2013, , .		25
61	An auto-generated nonlinear MPC algorithm for real-time obstacle avoidance of ground vehicles. , 2013, , .		102
62	Fast stochastic MPC with optimal risk allocation applied to building control systems. , 2012, , .		33
63	Predictive control for agile semi-autonomous ground vehicles using motion primitives. , 2012, , .		129
64	Safe semi-autonomous control with enhanced driver modeling. , 2012, , .		50
65	Scenario-based approach to stochastic linear predictive control. , 2012, , .		16
66	Sufficient conditions for complexity reduction in min-max control of constrained uncertain linear systems. , 2012, , .		0
67	Integrated threat assessment and control design for roadway departure avoidance. , 2012, , .		29
68	Parallel nonlinear predictive control. , 2012, , .		2
69	Decentralized Robust Control Invariance for a Network of Storage Devices. IEEE Transactions on Automatic Control, 2012, 57, 1018-1024.	5.7	7
70	Model Predictive Control for the Operation of Building Cooling Systems. IEEE Transactions on Control Systems Technology, 2012, 20, 796-803.	5.2	356
71	Robust vehicle lateral stabilisation via set-based methods for uncertain piecewise affine systems. Vehicle System Dynamics, 2012, 50, 861-882.	3.7	22
72	A distributed predictive control approach to building temperature regulation. , 2011, , .		43

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73	Distributed averaging with flow constraints. , 2011, , .		11
74	Analysis of local optima in predictive control for energy efficient buildings. , 2011, , .		25
75	Robust vehicle lateral stabilization via set-based methods for uncertain piecewise affine systems: Experimental results. , 2011, , .		11
76	Model predictive control for the operation of building cooling systems. , 2010, , .		25
77	Decentralized robust control invariance for a network of integrators. , 2010, , .		0
78	On the complexity of explicit MPC laws. , 2009, , .		6
79	On the Computation of Linear Model Predictive Control Laws. , 2009, , .		3
80	Model Predictive Control of thermal energy storage in building cooling systems. , 2009, , .		100
81	On a Property of a Class of Offset-Free Model Predictive Controllers. IEEE Transactions on Automatic Control, 2009, 54, 663-669.	5.7	11
82	A reference governor approach for constrained piecewise affine systems. , 2009, , .		8
83	Scanning and tracking with independent cameras—a biologically motivated approach based on model predictive control. Autonomous Robots, 2008, 24, 285-302.	4.8	16
84	Distributed LQR Design for Identical Dynamically Decoupled Systems. IEEE Transactions on Automatic Control, 2008, 53, 1901-1912.	5.7	240
85	MPC-based yaw and lateral stabilisation via active front steering and braking. Vehicle System Dynamics, 2008, 46, 611-628.	3.7	303
86	Robust invariant set theory applied to networked buffer-level control. , 2008, , .		5
87	Observer pole placement limitations for a class of offset-free model predictive controllers. , 2008, , .		2