

Alberto Bemporad

List of Publications by Year in Descending Order

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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.

143
papers

8,998
citations

36
h-index

94
g-index

152
ext. papers

11,151
ext. citations

3.6
avg, IF

6.7
L-index

#	Paper	IF	Citations
143	Data-Driven Synthesis of Robust Invariant Sets and Controllers 2022 , 6, 1676-1681		
142	A Linear Programming Method Based on Proximal-Point Iterations With Applications to Multi-Parametric Programming 2022 , 6, 2066-2071		
141	An efficient bounded-variable nonlinear least-squares algorithm for embedded MPC. <i>Automatica</i> , 2022 , 141, 110293	5.7	0
140	Active preference-based optimization for human-in-the-loop feature selection. <i>European Journal of Control</i> , 2022 , 100647	2.5	
139	Preference-based MPC calibration 2021 ,		4
138	Variable Elimination in Model Predictive Control Based on K-SVD and QR Factorization. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	
137	C-GLISp: Preference-Based Global Optimization Under Unknown Constraints With Applications to Controller Calibration. <i>IEEE Transactions on Control Systems Technology</i> , 2021 , 1-12	4.8	0
136	Model Predictive Control With Environment Adaptation for Legged Locomotion. <i>IEEE Access</i> , 2021 , 9, 145710-145727	3.5	3
135	Constrained Control and Observer Design by Inverse Optimality. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	2
134	Input Constraint Sets for Robust Regulation of Linear Systems. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	
133	Global optimization based on active preference learning with radial basis functions. <i>Machine Learning</i> , 2021 , 110, 417-448	4	7
132	Learning nonlinear state-space models using autoencoders. <i>Automatica</i> , 2021 , 129, 109666	5.7	9
131	Embedded Model Predictive Control With Certified Real-Time Optimization for Synchronous Motors. <i>IEEE Transactions on Control Systems Technology</i> , 2021 , 29, 893-900	4.8	24
130	Model predictive control for drift counteraction of stochastic constrained linear systems. <i>Automatica</i> , 2021 , 123, 109304	5.7	2
129	Optimal direct data-driven control with stability guarantees. <i>European Journal of Control</i> , 2021 , 59, 175-187		3
128	A machine-learning approach to synthesize virtual sensors for parameter-varying systems. <i>European Journal of Control</i> , 2021 , 61, 40-49	2.5	
127	Complexity Certification of Proximal-Point Methods for Numerically Stable Quadratic Programming 2021 , 5, 1381-1386		3

126	Pairwise Preferences-Based Optimization of a Path-Based Velocity Planner in Robotic Sealing Tasks. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 6632-6639	4.2	4
125	Tuning LQR Controllers: A Sensitivity-Based Approach 2021 , 1-1		2
124	Rao-Blackwellized sampling for batch and recursive Bayesian inference of Piecewise Affine models. <i>Automatica</i> , 2020 , 117, 109002	5.7	4
123	Exact Complexity Certification of a Nonnegative Least-Squares Method for Quadratic Programming 2020 , 4, 1036-1041		2
122	OSQP: an operator splitting solver for quadratic programs. <i>Mathematical Programming Computation</i> , 2020 , 12, 637-672	7.8	123
121	Learning affine predictors for MPC of nonlinear systems via artificial neural networks. <i>IFAC-PapersOnLine</i> , 2020 , 53, 5233-5238	0.7	0
120	Learning optimal switching feedback controllers from data. <i>IFAC-PapersOnLine</i> , 2020 , 53, 1602-1607	0.7	
119	Cloud-based collaborative learning of optimal feedback controllers. <i>IFAC-PapersOnLine</i> , 2020 , 53, 2660-2665		
118	Learning Approximate Semi-Explicit Hybrid MPC with an Application to Microgrids. <i>IFAC-PapersOnLine</i> , 2020 , 53, 5207-5212	0.7	2
117	PLC implementation of a real-time embedded MPC algorithm based on linear input/output models. <i>IFAC-PapersOnLine</i> , 2020 , 53, 6987-6992	0.7	1
116	Tight Error Analysis in Fixed-Point Arithmetic. <i>Lecture Notes in Computer Science</i> , 2020 , 318-336	0.9	2
115	Efficient Calibration of Embedded MPC. <i>IFAC-PapersOnLine</i> , 2020 , 53, 5189-5194	0.7	5
114	Safe Reinforcement Learning via Projection on a Safe Set: How to Achieve Optimality?. <i>IFAC-PapersOnLine</i> , 2020 , 53, 8076-8081	0.7	8
113	Estimation of jump Box-Jenkins models. <i>Automatica</i> , 2020 , 120, 109126	5.7	2
112	Global optimization via inverse distance weighting and radial basis functions. <i>Computational Optimization and Applications</i> , 2020 , 77, 571-595	1.4	12
111	Cooperative constrained parameter estimation by ADMM-RLS. <i>Automatica</i> , 2020 , 121, 109175	5.7	2
110	New trends in modeling and control of hybrid systems. <i>International Journal of Robust and Nonlinear Control</i> , 2020 , 30, 5775-5776	3.6	
109	Identification of hybrid and linear parameter-varying models via piecewise affine regression using mixed integer programming. <i>International Journal of Robust and Nonlinear Control</i> , 2020 , 30, 5802-5819	3.6	4

108	From linear to nonlinear MPC: bridging the gap via the real-time iteration. <i>International Journal of Control</i> , 2020 , 93, 62-80	1.5	83
107	A simple effective heuristic for embedded mixed-integer quadratic programming. <i>International Journal of Control</i> , 2020 , 93, 2-12	1.5	47
106	A Bounded-Variable Least-Squares Solver Based on Stable QR Updates. <i>IEEE Transactions on Automatic Control</i> , 2020 , 65, 1242-1247	5.9	5
105	Interpolation based predictive control by ellipsoidal invariant sets. <i>IFAC Journal of Systems and Control</i> , 2020 , 12, 100084	0.9	5
104	Online end-use energy disaggregation via jump linear models. <i>Control Engineering Practice</i> , 2019 , 89, 30-42	3.9	2
103	2019 , 3, 577-582		31
102	Synthesis of Optimal Feedback Controllers from Data via Stochastic Gradient Descent 2019 ,		3
101	Complexity and convergence certification of a block principal pivoting method for box-constrained quadratic programs. <i>Automatica</i> , 2019 , 100, 29-37	5.7	13
100	Risk-averse model predictive control. <i>Automatica</i> , 2019 , 100, 281-288	5.7	16
99	Dynamic option hedging with transaction costs: A stochastic model predictive control approach. <i>International Journal of Robust and Nonlinear Control</i> , 2019 , 29, 5058-5077	3.6	6
98	Uncertainty-aware demand management of water distribution networks in deregulated energy markets. <i>Environmental Modelling and Software</i> , 2018 , 101, 10-22	5.2	3
97	GPU-Accelerated Stochastic Predictive Control of Drinking Water Networks. <i>IEEE Transactions on Control Systems Technology</i> , 2018 , 26, 551-562	4.8	19
96	Direct Data-Driven Control of Constrained Systems. <i>IEEE Transactions on Control Systems Technology</i> , 2018 , 26, 1422-1429	4.8	31
95	A bias-correction method for closed-loop identification of Linear Parameter-Varying systems. <i>Automatica</i> , 2018 , 87, 128-141	5.7	20
94	Fitting jump models. <i>Automatica</i> , 2018 , 96, 11-21	5.7	19
93	Model Predictive Control (MPC) for Enhancing Building and HVAC System Energy Efficiency: Problem Formulation, Applications and Opportunities. <i>Energies</i> , 2018 , 11, 631	3.1	184
92	Spacecraft Drift Counteraction Optimal Control: Open-Loop and Receding Horizon Solutions. <i>Journal of Guidance, Control, and Dynamics</i> , 2018 , 41, 1859-1872	2.1	4
91	Cloud-aided collaborative estimation by ADMM-RLS algorithms for connected diagnostics and prognostics 2018 ,		2

90	A Numerically Stable Solver for Positive Semidefinite Quadratic Programs Based on Nonnegative Least Squares. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 525-531	5.9	11
89	Energy Disaggregation using Piecewise Affine Regression and Binary Quadratic Programming 2018 ,		2
88	Learning Nonlinear State-Space Models Using Deep Autoencoders 2018 ,		10
87	Regularized Moving-Horizon PWA Regression for LPV System Identification. <i>IFAC-PapersOnLine</i> , 2018 , 51, 1092-1097	0.7	1
86	A Fast NMPC Approach based on Bounded-Variable Nonlinear Least Squares. <i>IFAC-PapersOnLine</i> , 2018 , 51, 337-342	0.7	5
85	A Numerically Robust Mixed-Integer Quadratic Programming Solver for Embedded Hybrid Model Predictive Control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 412-417	0.7	11
84	Simple Interpolating Control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 42-47	0.7	5
83	Fast Linear Parameter Varying Model Predictive Control of Buck DC-DC Converters Based on FPGA. <i>IEEE Access</i> , 2018 , 6, 52434-52446	3.5	13
82	SAT-Based Synthesis of Spoofing Attacks in Cyber-Physical Control Systems 2018 ,		4
81	Stochastic MPC Approach to Drift Counteraction 2018 ,		2
80	Reference trajectory planning under constraints and path tracking using linear time-varying model predictive control for agricultural machines. <i>Biosystems Engineering</i> , 2017 , 153, 28-41	4.8	35
79	Optimal energy management of a small-size building via hybrid model predictive control. <i>Energy and Buildings</i> , 2017 , 140, 1-8	7	34
78	Exact Complexity Certification of Active-Set Methods for Quadratic Programming. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 6094-6109	5.9	34
77	LQG Online Learning. <i>Neural Computation</i> , 2017 , 29, 2203-2291	2.9	2
76	Model predictive control for pre-compensated voltage mode controlled DCDC converters. <i>IET Control Theory and Applications</i> , 2017 , 11, 2514-2520	2.5	29
75	Data-driven modelling, learning and stochastic predictive control for the steel industry 2017 ,		1
74	Parallel investments in multiple call and put options for the tracking of desired profit profiles 2017 ,		1
73	Optimal distributed task scheduling in volunteer clouds. <i>Computers and Operations Research</i> , 2017 , 81, 231-246	4.6	19

72	Stochastic economic model predictive control for Markovian switching systems. <i>IFAC-PapersOnLine</i> , 2017 , 50, 524-530	0.7	4
71	Regularized moving-horizon piecewise affine regression using mixed-integer quadratic programming 2017 ,		8
70	Proximal Limited-Memory Quasi-Newton Methods for Scenario-based Stochastic Optimal Control. <i>IFAC-PapersOnLine</i> , 2017 , 50, 11865-11870	0.7	
69	LPV Model Order Selection from Noise-corrupted Output and Scheduling Signal Measurements. <i>IFAC-PapersOnLine</i> , 2017 , 50, 8355-8360	0.7	
68	Embedded Mixed-Integer Quadratic Optimization using Accelerated Dual Gradient Projection. <i>IFAC-PapersOnLine</i> , 2017 , 50, 10723-10728	0.7	15
67	Embedded code generation using the OSQP solver 2017 ,		23
66	Fast model predictive control based on linear input/output models and bounded-variable least squares 2017 ,		7
65	Optimal and receding horizon drift counteraction control: Linear programming approaches 2017 ,		5
64	Predictive Control for Linear and Hybrid Systems 2017 ,		269
63	A Lyapunov method for stability analysis of piecewise-affine systems over non-invariant domains. <i>International Journal of Control</i> , 2016 , 89, 950-959	1.5	7
62	2016 ,		23
61	Identification of hybrid and linear parameter varying models via recursive piecewise affine regression and discrimination 2016 ,		8
60	A Quadratic Programming Algorithm Based on Nonnegative Least Squares With Applications to Embedded Model Predictive Control. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 1111-1116	5.9	43
59	Real-time model predictive control based on dual gradient projection: Theory and fixed-point FPGA implementation. <i>International Journal of Robust and Nonlinear Control</i> , 2016 , 26, 3292-3310	3.6	8
58	Regularized least square support vector machines for order and structure selection of LPV-ARX models 2016 ,		5
57	Piecewise affine regression via recursive multiple least squares and multcategory discrimination. <i>Automatica</i> , 2016 , 73, 155-162	5.7	48
56	A hierarchical consensus method for the approximation of the consensus state, based on clustering and spectral graph theory. <i>Engineering Applications of Artificial Intelligence</i> , 2016 , 56, 157-174	7.2	3
55	A dual gradient-projection algorithm for model predictive control in fixed-point arithmetic. <i>Automatica</i> , 2015 , 55, 226-235	5.7	10

54	A Multiparametric Quadratic Programming Algorithm With Polyhedral Computations Based on Nonnegative Least Squares. <i>IEEE Transactions on Automatic Control</i> , 2015 , 60, 2892-2903	5.9	36
53	Online model predictive torque control for Permanent Magnet Synchronous Motors 2015 ,		32
52	Sparse Solutions to the Average Consensus Problem via Various Regularizations of the Fastest Mixing Markov-Chain Problem. <i>IEEE Transactions on Network Science and Engineering</i> , 2015 , 2, 97-111	4.9	7
51	Solving Mixed-Integer Quadratic Programs via Nonnegative Least Squares. <i>IFAC-PapersOnLine</i> , 2015 , 48, 73-79	0.7	17
50	Distributed solution of stochastic optimal control problems on GPUs 2015 ,		4
49	Online learning as an LQG optimal control problem with random matrices 2015 ,		1
48	Low-complexity piecewise-affine virtual sensors: theory and design. <i>International Journal of Control</i> , 2014 , 87, 622-632	1.5	3
47	Stabilizing Dynamic Controllers for Hybrid Systems: A Hybrid Control Lyapunov Function Approach. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 2629-2643	5.9	18
46	Dynamic option hedging via stochastic model predictive control based on scenario simulation. <i>Quantitative Finance</i> , 2014 , 14, 1739-1751	1.6	18
45	Robust explicit model predictive control via regular piecewise-affine approximation. <i>International Journal of Control</i> , 2014 , 87, 2583-2593	1.5	10
44	Stochastic model predictive control for constrained discrete-time Markovian switching systems. <i>Automatica</i> , 2014 , 50, 2504-2514	5.7	51
43	Stabilizing Linear Model Predictive Control Under Inexact Numerical Optimization. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 1660-1666	5.9	31
42	Stochastic MPC With Learning for Driver-Predictive Vehicle Control and its Application to HEV Energy Management. <i>IEEE Transactions on Control Systems Technology</i> , 2014 , 22, 1018-1031	4.8	248
41	. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 18-33	5.9	143
40	Stability and Invariance Analysis of Uncertain Discrete-Time Piecewise Affine Systems. <i>IEEE Transactions on Automatic Control</i> , 2013 , 58, 2359-2365	5.9	9
39	Fixed-point dual gradient projection for embedded model predictive control 2013 ,		10
38	Energy-aware robust model predictive control based on noisy wireless sensors. <i>Automatica</i> , 2012 , 48, 36-44	5.7	50
37	Stability analysis of stochastic networked control systems. <i>Automatica</i> , 2012 , 48, 917-925	5.7	148

36	High-Speed Piecewise Affine Virtual Sensors. <i>IEEE Transactions on Industrial Electronics</i> , 2012 , 59, 1228-1237	12.37	12
35	Stabilizing Model Predictive Control of Stochastic Constrained Linear Systems. <i>IEEE Transactions on Automatic Control</i> , 2012 , 57, 1468-1480	5.9	90
34	Assessment of non-centralised model predictive control techniques for electrical power networks. <i>International Journal of Control</i> , 2012 , 85, 1162-1177	1.5	38
33	Model Predictive Idle Speed Control: Design, Analysis, and Experimental Evaluation. <i>IEEE Transactions on Control Systems Technology</i> , 2011 ,	4.8	42
32	2011 ,		10
31	Model-Predictive Control of Discrete Hybrid Stochastic Automata. <i>IEEE Transactions on Automatic Control</i> , 2011 , 56, 1307-1321	5.9	23
30	Decentralized model predictive control of dynamically coupled linear systems. <i>Journal of Process Control</i> , 2011 , 21, 705-714	3.9	50
29	Ultra-Fast Stabilizing Model Predictive Control via Canonical Piecewise Affine Approximations. <i>IEEE Transactions on Automatic Control</i> , 2011 , 56, 2883-2897	5.9	63
28	Scenario-based stochastic model predictive control for dynamic option hedging 2010 ,		18
27	Equivalent Piecewise Affine Models of Linear Hybrid Automata. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 498-502	5.9	11
26	Model Predictive Control Tuning by Controller Matching. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 185-190	5.9	88
25	Synthesis of stabilizing model predictive controllers via canonical piecewise affine approximations 2010 ,		6
24	Optimization-based automatic flatness control in cold tandem rolling. <i>Journal of Process Control</i> , 2010 , 20, 396-407	3.9	39
23	Multiobjective model predictive control. <i>Automatica</i> , 2009 , 45, 2823-2830	5.7	98
22	2009 ,		74
21	Efficient On-Line Computation of Constrained Optimal Control. <i>SIAM Journal on Control and Optimization</i> , 2008 , 47, 2470-2489	1.9	64
20	Passivity Analysis and Passification of Discrete-Time Hybrid Systems. <i>IEEE Transactions on Automatic Control</i> , 2008 , 53, 1004-1009	5.9	52
19	Combined Design of Disturbance Model and Observer for Offset-Free Model Predictive Control. <i>IEEE Transactions on Automatic Control</i> , 2007 , 52, 1048-1053	5.9	64

18	Model Predictive Control Design: New Trends and Tools 2006 ,		86
17	An Algorithm for Approximate Multiparametric Convex Programming. <i>Computational Optimization and Applications</i> , 2006 , 35, 87-108	1.4	83
16	Dynamic programming for constrained optimal control of discrete-time linear hybrid systems. <i>Automatica</i> , 2005 , 41, 1709-1721	5.7	245
15	Optimal Control of Discrete Hybrid Stochastic Automata. <i>Lecture Notes in Computer Science</i> , 2005 , 151-167	1.4	14
14	Identification of piecewise affine systems via mixed-integer programming. <i>Automatica</i> , 2004 , 40, 37-50	5.7	260
13	Inner and outer approximations of polytopes using boxes. <i>Computational Geometry: Theory and Applications</i> , 2004 , 27, 151-178	0.4	36
12	Hybrid modelling and optimal control of a Multiproduct Batch Plant. <i>Control Engineering Practice</i> , 2004 , 12, 1127-1137	3.9	24
11	Anti-windup synthesis via sampled-data piecewise affine optimal control. <i>Automatica</i> , 2004 , 40, 549-562	5.7	30
10	An algorithm for multi-parametric quadratic programming and explicit MPC solutions. <i>Automatica</i> , 2003 , 39, 489-497	5.7	384
9	On-line optimization via off-line parametric optimization tools. <i>Computers and Chemical Engineering</i> , 2002 , 26, 175-185	4	134
8	The explicit linear quadratic regulator for constrained systems. <i>Automatica</i> , 2002 , 38, 3-20	5.7	1994
7	Convexity recognition of the union of polyhedra. <i>Computational Geometry: Theory and Applications</i> , 2001 , 18, 141-154	0.4	60
6	Model predictive control: A multi-parametric programming approach. <i>Computer Aided Chemical Engineering</i> , 2000 , 8, 301-306	0.6	7
5	Control of systems integrating logic, dynamics, and constraints. <i>Automatica</i> , 1999 , 35, 407-427	5.7	1956
4	Robust model predictive control: A survey 1999 , 207-226		435
3	A Predictive Controller with Artificial Lyapunov Function for Linear Systems with Input/State Constraints. <i>Automatica</i> , 1998 , 34, 1255-1260	5.7	28
2	Fulfilling Hard Constraints in Uncertain Linear Systems by Reference Managing. <i>Automatica</i> , 1998 , 34, 451-461	5.7	85
1	A predictive reference governor for constrained control systems. <i>Computers in Industry</i> , 1998 , 36, 55-64	11.6	23

