Alessandro Beghi

List of Publications by Year
in descending order

67 papers	1,451 citations	686830 13 h-index	525886 27 g-index
68 all docs	68 docs citations	68 times ranked	1288 citing authors

#	Article	IF	Citations
1	A Nonlinear Model-Predictive Contouring Controller for Shared Control Driving Assistance in High-Performance Scenarios. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2023, 53, 204-215.	5.9	3
2	A Self-Tuning KPCA-Based Approach to Fault Detection in Chiller Systems. IEEE Transactions on Control Systems Technology, 2022, 30, 1359-1374.	3.2	13
3	FORMULA: A Deep Learning Approach for Rare Alarms Predictions in Industrial Equipment. IEEE Transactions on Automation Science and Engineering, 2022, 19, 1491-1502.	3.4	3
4	A Deep Convolutional Autoencoder-Based Approach for Anomaly Detection With Industrial, Non-Images, 2-Dimensional Data: A Semiconductor Manufacturing Case Study. IEEE Transactions on Automation Science and Engineering, 2022, 19, 1477-1490.	3.4	13
5	Real-Time Nonlinear Model Predictive Control of a Virtual Motorcycle. IEEE Transactions on Control Systems Technology, 2021, 29, 2214-2222.	3.2	3
6	AutoSS: A Deep Learning-Based Soft Sensor for Handling Time-Series Input Data. IEEE Robotics and Automation Letters, 2021, 6, 6100-6107.	3.3	4
7	Exploiting 2D Coordinates as Bayesian Priors for Deep Learning Defect Classification of SEM Images. IEEE Transactions on Semiconductor Manufacturing, 2021, 34, 436-439.	1.4	4
8	Assessing the contribution of active somatosensory stimulation to self-acceleration perception in dynamic driving simulators. PLoS ONE, 2021, 16, e0259015.	1.1	1
9	Efficient move blocking strategy for multiple shooting–based non–linear model predictive control. IET Control Theory and Applications, 2020, 14, 343-351.	1.2	25
10	DeepVM: A Deep Learning-based approach with automatic feature extraction for 2D input data Virtual Metrology. Journal of Process Control, 2019, 84, 24-34.	1.7	36
11	MATMPC - A MATLAB Based Toolbox for Real-time Nonlinear Model Predictive Control. , 2019, , .		42
12	Lumped-parameters Control-oriented Gray-box Modelling of Liquid Immersion Cooling Systems. , 2019, , .		0
13	A static moving boundary modelling approach for simulation of indirect evaporative free cooling systems. Applied Energy, 2019, 250, 1719-1728.	5.1	23
14	Deep Learning-based Production Forecasting in Manufacturing: a Packaging Equipment Case Study. Procedia Manufacturing, 2019, 38, 248-255.	1.9	15
15	Machine Learning-Based Soft Sensors for the Estimation of Laundry Moisture Content in Household Dryer Appliances. Energies, 2019, 12, 3843.	1.6	9
16	Efficient Operation of Indirect Evaporative Data Center Cooling Systems via Newton-Like Extremum-Seeking Control. , 2019, , .		3
17	A Deep Learning-based Approach to Anomaly Detection with 2-Dimensional Data in Manufacturing. , 2019, , .		9
18	Explainable Machine Learning in Industry 4.0: Evaluating Feature Importance in Anomaly Detection to Enable Root Cause Analysis. , 2019, , .		46

#	Article	IF	Citations
19	Laundry Fabric Classification in Vertical Axis Washing Machines Using Data-Driven Soft Sensors. Energies, 2019, 12, 4080.	1.6	5
20	A Nonlinear Model Predictive Control based Virtual Driver for high performance driving. , 2019, , .		9
21	Extremum Seeking-based Optimal Setting of the Air Temperature in Industrial Textile Dryers. , 2019, , .		1
22	An Adaptive Partial Sensitivity Updating Scheme for Fast Nonlinear Model Predictive Control. IEEE Transactions on Automatic Control, 2019, 64, 2712-2726.	3.6	16
23	A hidden-Gamma model-based filtering and prediction approach for monotonic health factors in manufacturing. Control Engineering Practice, 2018, 74, 84-94.	3.2	36
24	A Motion Cueing Algorithm With Look-Ahead and Driver Characterization: Application to Vertical Car Dynamics. IEEE Transactions on Human-Machine Systems, 2018, 48, 6-16.	2.5	13
25	Model-Free Control of Data Center Compressor-Based Cooling Systems. , 2018, , .		1
26	Data-Driven Supervisory Control of Indirect Adiabatic Cooling Systems. , 2018, , .		2
27	Local Principal Component Analysis for Fault Detection in Air-Condensed Water Chillers. , 2018, , .		1
28	Designing and teaching of an effective engineering continuing education course: Modeling and simulation of HVAC systems. Computer Applications in Engineering Education, 2018, 26, 739-748.	2.2	9
29	A nonlinear MPC based motion cueing strategy for a high performance driving simulator with active seat. , 2018, , .		6
30	A Computer Vision-Inspired Deep Learning Architecture for Virtual Metrology Modeling With 2-Dimensional Data. IEEE Transactions on Semiconductor Manufacturing, 2018, 31, 376-384.	1.4	48
31	A Nonlinear, MPC-Based Motion Cueing Algorithm for a High-Performance, Nine-DOF Dynamic Simulator Platform. IEEE Transactions on Control Systems Technology, 2017, 25, 686-694.	3.2	29
32	Energy-efficient operation of an indirect adiabatic cooling system for data centers. , 2017, , .		5
33	A fast Nonlinear Model Predictive Control strategy for real-time motion control of mechanical systems. , 2017, , .		2
34	Deep learning for virtual metrology: Modeling with optical emission spectroscopy data. , 2017, , .		11
35	Energy-efficient management of a wood industry facility. , 2017, , .		0
36	An inexact sensitivity updating scheme for fast nonlinear model predictive control based on a curvature-like measure of nonlinearity. , 2017, , .		11

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37	Anomaly detection through on-line isolation Forest: An application to plasma etching. , 2017, , .		43
38	Model-based fault detection and diagnosis for centrifugal chillers. , 2016, , .		12
39	Computing Laser Beam Paths in Optical Cavities: An Approach Based on Geometric Newton Method. Journal of Optimization Theory and Applications, 2016, 171, 297-315.	0.8	1
40	External metrology system for the stabilization of large ring-lasers. , 2016, , .		2
41	Dealing with time-series data in Predictive Maintenance problems. , 2016, , .		27
42	Study of a real-time, MPC based motion cueing procedure with time-varying prediction for different classes of drivers. , 2016, , .		3
43	Machine Learning for Predictive Maintenance: A Multiple Classifier Approach. IEEE Transactions on Industrial Informatics, 2015, 11, 812-820.	7.2	513
44	A data-driven approach for fault diagnosis in HVAC chiller systems. , 2015, , .		6
45	Oil-free centrifugal chiller optimal operation. , 2014, , .		3
46	Enhancing the Simulation-Centric Design of Cyber-Physical and Multi-physics Systems through Co-simulation. , 2014, , .		6
47	Nonstationary multiscale turbulence simulation based on local PCA. ISA Transactions, 2014, 53, 1427-1435.	3.1	0
48	A non-linear MPC based Motion Cueing implementation for a 9 DOFs dynamic simulator platform. , 2014, , .		4
49	A predictive maintenance system for integral type faults based on support vector machines: An application to ion implantation. , 2013, , .		17
50	Process history-based Fault Detection and Diagnosis for VAVAC systems. , 2013, , .		8
51	A Virtual Rider for Motorcycles: Maneuver Regulation of a Multi-Body Vehicle Model. IEEE Transactions on Control Systems Technology, 2013, 21, 332-346.	3.2	23
52	A virtual metrology system based on least angle regression and statistical clustering. Applied Stochastic Models in Business and Industry, 2013, 29, 362-376.	0.9	19
53	A Real-Time Implementation of an MPC-Based Motion Cueing Strategy with Time-Varying Prediction. , 2013, , .		8
54	Modeling and control of HVAC systems with ice Cold Thermal Energy Storage. , 2013, , .		1

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55	On the estimation of atmospheric turbulence layers for AO systems. , 2013, , .		0
56	A real time implementation of MPC based Motion Cueing strategy for driving simulators. , 2012, , .		33
57	Trajectory Exploration of a Rigid Motorcycle Model. IEEE Transactions on Control Systems Technology, 2012, 20, 424-437.	3.2	22
58	Least angle regression for semiconductor manufacturing modeling. , 2012, , .		18
59	An information-theory and Virtual Metrology-based approach to Run-to-Run semiconductor manufacturing control. , 2012, , .		8
60	A Predictive Maintenance System for Epitaxy Processes Based on Filtering and Prediction Techniques. IEEE Transactions on Semiconductor Manufacturing, 2012, 25, 638-649.	1.4	115
61	Compensation of the laser parameter fluctuations in large ring-laser gyros: a Kalman filter approach. Applied Optics, 2012, 51, 7518.	0.9	30
62	Optimal tuning of epitaxy pyrometers. , 2012, , .		8
63	VAVAC systems modeling and simulation for FDD applications. , 2011, , .		11
64	Thermal and comfort control for radiant heating/cooling systems. , 2011, , .		5
65	A Predictive Maintenance System for Silicon Epitaxial Deposition. , 2011, , .		16
66	An MPC approach to the design of motion cueing algorithms for driving simulators. , 2011, , .		31
67	A simulation environment for dry-expansion evaporators with application to the design of autotuning control algorithms for electronic. , 2008, , .		0