

Kira Barton

List of Publications by Year in descending order

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Version: 2024-02-01

104
papers

2,968
citations

257101

24
h-index

182168

51
g-index

108
all docs

108
docs citations

108
times ranked

2952
citing authors

#	ARTICLE	IF	CITATIONS
1	High-resolution electrohydrodynamic jet printing. <i>Nature Materials</i> , 2007, 6, 782-789.	13.3	1,231
2	A Requirements Driven Digital Twin Framework: Specification and Opportunities. <i>IEEE Access</i> , 2020, 8, 107781-107801.	2.6	109
3	A desktop electrohydrodynamic jet printing system. <i>Mechatronics</i> , 2010, 20, 611-616.	2.0	73
4	Control of high-resolution electrohydrodynamic jet printing. <i>Control Engineering Practice</i> , 2011, 19, 1266-1273.	3.2	71
5	Real-Time Manufacturing Machine and System Performance Monitoring Using Internet of Things. <i>IEEE Transactions on Automation Science and Engineering</i> , 2018, 15, 1735-1748.	3.4	71
6	The impact of ankle-foot orthosis stiffness on gait: A systematic literature review. <i>Gait and Posture</i> , 2019, 69, 101-111.	0.6	63
7	The model-based product agent: A control oriented architecture for intelligent products in multi-agent manufacturing systems. <i>Control Engineering Practice</i> , 2019, 86, 105-117.	3.2	57
8	Large dynamic range nanopositioning using iterative learning control. <i>Precision Engineering</i> , 2014, 38, 48-56.	1.8	46
9	Categorization of Anomalies in Smart Manufacturing Systems to Support the Selection of Detection Mechanisms. <i>IEEE Robotics and Automation Letters</i> , 2017, 2, 1885-1892.	3.3	39
10	Production as a Service: A Digital Manufacturing Framework for Optimizing Utilization. <i>IEEE Transactions on Automation Science and Engineering</i> , 2018, 15, 1483-1493.	3.4	36
11	Iterative Learning-Based Path Optimization for Repetitive Path Planning, With Application to 3-D Crosswind Flight of Airborne Wind Energy Systems. <i>IEEE Transactions on Control Systems Technology</i> , 2020, 28, 1447-1459.	3.2	35
12	Product personalization enabled by assembly architecture and cyber physical systems. <i>CIRP Annals - Manufacturing Technology</i> , 2017, 66, 33-36.	1.7	34
13	High Precision Electrohydrodynamic Printing of Polymer Onto Microcantilever Sensors. <i>IEEE Sensors Journal</i> , 2011, 11, 2246-2253.	2.4	33
14	Iterative Learning Control of Iteration-Varying Systems via Robust Update Laws with Experimental Implementation. <i>Control Engineering Practice</i> , 2017, 62, 36-45.	3.2	33
15	Area-Selective Atomic Layer Deposition Patterned by Electrohydrodynamic Jet Printing for Additive Manufacturing of Functional Materials and Devices. <i>ACS Nano</i> , 2020, 14, 17262-17272.	7.3	33
16	Incorporating customer personalization preferences in open product architecture design. <i>Journal of Manufacturing Systems</i> , 2020, 56, 72-83.	7.6	32
17	A Methodology to Develop and Implement Digital Twin Solutions for Manufacturing Systems. <i>IEEE Access</i> , 2021, 9, 44247-44265.	2.6	31
18	A field shaping printhead for high-resolution electrohydrodynamic jet printing onto non-conductive and uneven surfaces. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	30

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19	A Unified Digital Twin Framework for Real-time Monitoring and Evaluation of Smart Manufacturing Systems. , 2019, , .		30
20	Manufacturing Choices for Ankle-Foot Orthoses: A Multi-objective Optimization. Procedia CIRP, 2017, 65, 145-150.	1.0	29
21	Robust iterative learning for high precision motion control through $\int_{-\infty}^{\infty} \frac{1}{\omega^2} \frac{d}{d\omega} \left(\frac{1}{\omega} \right) d\omega$ adaptive feedback. Mechatronics, 2014, 24, 549-561.	2.0	28
22	A software-defined framework for the integrated management of smart manufacturing systems. Manufacturing Letters, 2018, 15, 18-21.	1.1	28
23	Application of robust monotonically convergent spatial iterative learning control to microscale additive manufacturing. Mechatronics, 2018, 56, 157-165.	2.0	28
24	Dynamic Resource Task Negotiation to Enable Product Agent Exploration in Multi-Agent Manufacturing Systems. IEEE Robotics and Automation Letters, 2019, 4, 2854-2861.	3.3	27
25	Context-Sensitive Modeling and Analysis of Cyber-Physical Manufacturing Systems for Anomaly Detection and Diagnosis. IEEE Transactions on Automation Science and Engineering, 2020, 17, 29-40.	3.4	27
26	A day in the life of a dolphin: Using bio-logging tags for improved animal health and well-being. Marine Mammal Science, 2017, 33, 785-802.	0.9	27
27	A Framework for Automatic Initialization of Multi-Agent Production Systems Using Semantic Web Technologies. IEEE Robotics and Automation Letters, 2019, 4, 4330-4337.	3.3	25
28	A Digital Twin Framework for Performance Monitoring and Anomaly Detection in Fused Deposition Modeling. , 2019, , .		25
29	Off-road ground robot path energy cost prediction through probabilistic spatial mapping. Journal of Field Robotics, 2020, 37, 421-439.	3.2	24
30	SMART: A System-Level Manufacturing and Automation Research Testbed. Smart and Sustainable Manufacturing Systems, 2017, 1, 20170006.	0.3	24
31	A multi-objective iterative learning control approach for additive manufacturing applications. Control Engineering Practice, 2017, 64, 74-87.	3.2	23
32	Airflow assisted printhead for high-resolution electrohydrodynamic jet printing onto non-conductive and tilted surfaces. Applied Physics Letters, 2015, 107, .	1.5	19
33	Exponential stability of nonlinear differential repetitive processes with applications to iterative learning control. Automatica, 2017, 81, 369-376.	3.0	19
34	Dynamic Rerouting of Cyber-Physical Production Systems in Response to Disruptions Based on SDC Framework. , 2019, , .		19
35	Robust Monotonically Convergent Spatial Iterative Learning Control: Interval Systems Analysis via Discrete Fourier Transform. IEEE Transactions on Control Systems Technology, 2019, 27, 2470-2483.	3.2	17
36	An electrohydrodynamic jet printer with integrated metrology. Mechatronics, 2018, 56, 268-276.	2.0	16

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37	A Dynamical Model of Drop Spreading in Electrohydrodynamic Jet Printing. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2017, 139, .	1.3	15
38	Integration, Calibration, and Experimental Verification of a Speed Sensor for Swimming Animals. IEEE Sensors Journal, 2019, 19, 3616-3625.	2.4	15
39	Pareto iterative learning control: Optimized control for multiple performance objectives. Control Engineering Practice, 2014, 26, 125-135.	3.2	14
40	A Review of Manufacturing Process Control. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2020, 142, .	1.3	14
41	Low-back electromyography (EMG) data-driven load classification for dynamic lifting tasks. PLoS ONE, 2018, 13, e0192938.	1.1	14
42	Estimating Walking Speed in the Wild. Frontiers in Sports and Active Living, 2020, 2, 583848.	0.9	13
43	An energy-efficient method for multi-robot reconnaissance in an unknown environment. , 2017, , .		12
44	Design and implementation of an intelligent product agent architecture in manufacturing systems. , 2017, , .		11
45	Hybrid Modeling of Electrohydrodynamic Jet Printing. IEEE Transactions on Control Systems Technology, 2020, 28, 2322-2335.	3.2	11
46	Subtractive patterning: High-resolution electrohydrodynamic jet printing with solvents. Applied Physics Letters, 2020, 117, .	1.5	11
47	Iterative Learning-Based Path Optimization With Application to Marine Hydrokinetic Energy Systems. IEEE Transactions on Control Systems Technology, 2022, 30, 639-653.	3.2	11
48	An application of spatial Iterative Learning Control to micro-additive manufacturing. , 2016, , .		10
49	Virtual fusion: a hybrid environment for improved commissioning in manufacturing systems. International Journal of Production Research, 2017, 55, 6254-6265.	4.9	10
50	A Centralized Framework for System-Level Control and Management of Additive Manufacturing Fleets. , 2018, , .		10
51	Closing the Loop in IoT-enabled Manufacturing Systems: Challenges and Opportunities. , 2018, , .		10
52	Multi-Layer Spatial Iterative Learning Control for Micro-Additive Manufacturing. IFAC-PapersOnLine, 2019, 52, 97-102.	0.5	10
53	An Iterative Learning Approach for Online Flight Path Optimization for Tethered Energy Systems Undergoing Cyclic Spooling Motion. , 2019, , .		10
54	Cooperative Product Agents to Improve Manufacturing System Flexibility: A Model-Based Decision Framework. IEEE Transactions on Automation Science and Engineering, 2023, 20, 440-457.	3.4	10

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55	Iterative learning-based waypoint optimization for repetitive path planning, with application to airborne wind energy systems. , 2017, , .		9
56	Control-Oriented Modeling and Layer-to-Layer Stability for Fused Deposition Modeling: A Kernel Basis Approach. , 2019, , .		9
57	Time-Scale Transformed Iterative Learning Control for a Class of Nonlinear Systems With Uncertain Trial Duration. IEEE Transactions on Control Systems Technology, 2020, 28, 1972-1979.	3.2	9
58	Electrohydrodynamic Jet Printing of 1D Photonic Crystals: Part IIâ€”Optical Design and Reflectance Characteristics. Advanced Materials Technologies, 2020, 5, 2000431.	3.0	9
59	Integrating optimal process and supplier selection in personalised product architecture design. International Journal of Production Research, 2022, 60, 2461-2480.	4.9	9
60	Toward an Automated Learning Control Architecture for Cyber-Physical Manufacturing Systems. IEEE Access, 2022, 10, 38755-38773.	2.6	9
61	Open Process Automation- and Digital Twin-Based Performance Monitoring of a Process Manufacturing System. IEEE Access, 2022, 10, 60823-60835.	2.6	9
62	Production as a service: A centralized framework for small batch manufacturing. , 2017, , .		8
63	Integrating Human Operators into Agent-based Manufacturing Systems: A Table-top Demonstration. Procedia Manufacturing, 2018, 17, 326-333.	1.9	8
64	LPV models for jet-printed heightmap control. , 2019, , .		8
65	Model Predictive Control of Priced Timed Automata Encoded With First-Order Logic. IEEE Transactions on Control Systems Technology, 2022, 30, 352-359.	3.2	8
66	Dynamic Resource Allocation Using Multi-Agent Control for Manufacturing Systems. IFAC-PapersOnLine, 2021, 54, 488-494.	0.5	8
67	An Adaptive Modeling Framework for Bearing Failure Prediction. Electronics (Switzerland), 2022, 11, 257.	1.8	8
68	Learning control of linear iteration varying systems with varying references through robust invariant update laws. , 2015, , .		7
69	Real-time hybrid simulation of manufacturing systems for performance analysis and control. , 2015, , .		7
70	A framework for enhanced localization of marine mammals using auto-detected video and wearable sensor data fusion. , 2017, , .		7
71	System Identification of a Discrete Repetitive Process Model for Electrohydrodynamic Jet Printing. , 2018, , .		7
72	A Digital Twin Framework for Mechanical System Health State Estimation. IFAC-PapersOnLine, 2021, 54, 1-7.	0.5	7

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73	ℒ<inf>1</inf> adaptive control in an iterative learning control framework: Stability, robustness and design trade-offs. , 2013, , .		6
74	An integrated design approach for evaluating the effectiveness and cost of a fleet. Journal of Defense Modeling and Simulation, 2016, 13, 381-397.	1.2	6
75	Electrohydrodynamic Jet Printing of Oneâ€Dimensional Photonic Crystals: Part lâ€™An Empirical Model for Multiâ€Material Multiâ€Layer Fabrication. Advanced Materials Technologies, 2020, 5, 2000386.	3.0	6
76	Power Prediction for Heterogeneous Ground Robots Through Spatial Mapping and Sharing of Terrain Data. IEEE Robotics and Automation Letters, 2020, 5, 1579-1586.	3.3	6
77	Medication Adherence and Liquid Level Tracking System for Healthcare Provider Feedback. Sensors, 2020, 20, 2435.	2.1	6
78	Trend-Based Repair Quality Assessment for Industrial Rotating Equipment. , 2021, 5, 1675-1680.		6
79	Bidirectional LSTM Recurrent Neural Network Plus Hidden Markov Model for Wearable Sensor-Based Dynamic State Estimation. ASME Letters in Dynamic Systems and Control, 2021, 1, .	0.4	6
80	Integrating Structural Colors with Additive Manufacturing Using Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2022, 14, 31099-31108.	4.0	6
81	Virtual Fusion: Integrating Virtual Components into a Physical Manufacturing System. IFAC-PapersOnLine, 2015, 48, 904-909.	0.5	5
82	Localization and Tracking of Uncontrollable Underwater Agents: Particle Filter Based Fusion of On-Body IMUs and Stationary Cameras. , 2019, , .		5
83	Flexible-Time Economic Iterative Learning Control: A Case Study in Airborne Wind Energy. , 2019, , .		5
84	A Control-Oriented Model for Bead Cross-Sectional Geometry in Fused Deposition Modeling. , 2020, , .		5
85	Priced Timed Automata Models for Control of Intelligent Product Agents in Manufacturing Systems. IFAC-PapersOnLine, 2020, 53, 136-142.	0.5	5
86	Spatial Iterative Learning Control for Multi-material Three-Dimensional Structures. ASME Letters in Dynamic Systems and Control, 2021, 1, .	0.4	5
87	MotionSC: Data Set and Network for Real-Time Semantic Mapping in Dynamic Environments. IEEE Robotics and Automation Letters, 2022, 7, 8439-8446.	3.3	5
88	A Model of Liquid-Drop Spreading for Electrohydrodynamic Jet Printing. , 2015, , .		3
89	Ground Robot Terrain Mapping and Energy Prediction in Environments with 3-D Topography. , 2018, , .		3
90	The effect of rotational speed on ankle-foot orthosis properties. Journal of Biomechanics, 2021, 123, 110483.	0.9	3

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91	Iterative learning control with discrete-time nonlinear nonminimum phase models via stable inversion. <i>International Journal of Robust and Nonlinear Control</i> , 0, , .	2.1	3
92	Layer-to-Layer Stability of Linear Layerwise Spatially Varying Systems: Applications in Fused Deposition Modeling. <i>IEEE Transactions on Control Systems Technology</i> , 2021, 29, 2517-2532.	3.2	3
93	Higher-Order Spatial Iterative Learning Control for Additive Manufacturing. , 2021, , .		3
94	Reinforcement Learning Enabled Autonomous Manufacturing Using Transfer Learning and Probabilistic Reward Modeling. , 2023, 7, 508-513.		3
95	Investigation of Environmentally Dependent Movement of Bottlenose Dolphins (<i>Tursiops truncatus</i>). <i>Journal of Zoological and Botanical Gardens</i> , 2021, 2, 335-348.	1.0	2
96	A Closed-Form Representation of Piecewise Defined Systems and their Integration with Iterative Learning Control. , 2019, , .		2
97	On linearized stability of differential repetitive processes and iterative learning control. , 2015, , .		1
98	Rohrs' Example Revisited: On the Robustness of Adaptive Iterative Learning Control. <i>Asian Journal of Control</i> , 2018, 20, 993-1002.	1.9	1
99	Merging Subject Matter Expertise and Deep Convolutional Neural Network for State-Based Online Machine-Part Interaction Classification. , 2021, , .		1
100	Developing the Workforce for Next-Generation Smart Manufacturing Systems: A Multidisciplinary Research Team Approach. <i>Smart and Sustainable Manufacturing Systems</i> , 2021, 5, 4-24.	0.3	1
101	Flexible-Time Receding Horizon Iterative Learning Control With Application to Marine Hydrokinetic Energy Systems. <i>IEEE Transactions on Control Systems Technology</i> , 2022, 30, 2767-2774.	3.2	1
102	A High-Fidelity Modeling Framework for Near-Field Electrohydrodynamic Jet Printing. <i>IFAC-PapersOnLine</i> , 2021, 54, 475-481.	0.5	0
103	Hierarchical Structures for Economic Repetitive Control. , 2021, , .		0
104	Library-Based Norm-Optimal Iterative Learning Control. , 2021, , .		0