

Paulo Leitao

List of Publications by Year in descending order

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Version: 2024-02-01

139
papers

4,655
citations

257450

24
h-index

118850

62
g-index

147
all docs

147
docs citations

147
times ranked

2769
citing authors

#	ARTICLE	IF	CITATIONS
1	Agent-based distributed manufacturing control: A state-of-the-art survey. Engineering Applications of Artificial Intelligence, 2009, 22, 979-991.	8.1	694
2	Industrial automation based on cyber-physical systems technologies: Prototype implementations and challenges. Computers in Industry, 2016, 81, 11-25.	9.9	508
3	ADACOR: A holonic architecture for agile and adaptive manufacturing control. Computers in Industry, 2006, 57, 121-130.	9.9	429
4	Smart Agents in Industrial Cyber-Physical Systems. Proceedings of the IEEE, 2016, 104, 1086-1101.	21.3	327
5	Dynamic self-organization in holonic multi-agent manufacturing systems: The ADACOR evolution. Computers in Industry, 2015, 66, 99-111.	9.9	194
6	Past, Present, and Future of Industrial Agent Applications. IEEE Transactions on Industrial Informatics, 2013, 9, 2360-2372.	11.3	183
7	A Review of Agent and Service-Oriented Concepts Applied to Intelligent Energy Systems. IEEE Transactions on Industrial Informatics, 2014, 10, 1890-1903.	11.3	137
8	Bio-inspired multi-agent systems for reconfigurable manufacturing systems. Engineering Applications of Artificial Intelligence, 2012, 25, 934-944.	8.1	129
9	Digital transformation of manufacturing through cloud services and resource virtualization. Computers in Industry, 2019, 108, 150-162.	9.9	120
10	IDARTS – Towards intelligent data analysis and real-time supervision for industry 4.0. Computers in Industry, 2018, 101, 138-146.	9.9	119
11	Digital Twin in Industry 4.0: Technologies, Applications and Challenges. , 2019, , .		88
12	Benchmarking flexible job-shop scheduling and control systems. Control Engineering Practice, 2013, 21, 1204-1225.	5.5	87
13	A holonic approach to dynamic manufacturing scheduling. Robotics and Computer-Integrated Manufacturing, 2008, 24, 625-634.	9.9	71
14	Intelligent products: The grace experience. Control Engineering Practice, 2015, 42, 95-105.	5.5	67
15	Industrial Agents as a Key Enabler for Realizing Industrial Cyber-Physical Systems: Multiagent Systems Entering Industry 4.0. IEEE Industrial Electronics Magazine, 2020, 14, 18-32.	2.6	67
16	Agents enabling cyber-physical production systems. Automatisierungstechnik, 2015, 63, 777-789.	0.8	64
17	System architectures for Industrie 4.0 applications. Production Engineering, 2019, 13, 247-257.	2.3	64
18	Implementation of a Holonic Control System in a Flexible Manufacturing System. IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews, 2008, 38, 699-709.	2.9	63

#	ARTICLE	IF	CITATIONS
19	Key Contributing Factors to the Acceptance of Agents in Industrial Environments. IEEE Transactions on Industrial Informatics, 2017, 13, 696-703.	11.3	54
20	Pollux: a dynamic hybrid control architecture for flexible job shop systems. International Journal of Production Research, 2017, 55, 4229-4247.	7.5	45
21	Multiagent System Integrating Process and Quality Control in a Factory Producing Laundry Washing Machines. IEEE Transactions on Industrial Informatics, 2015, 11, 879-886.	11.3	42
22	Service-oriented control architecture for reconfigurable production systems. , 2008, , .		33
23	Cross benefits from cyber-physical systems and intelligent products for future smart industries. , 2016, , .		31
24	Decentralized and on-the-fly agent-based service reconfiguration in manufacturing systems. Computers in Industry, 2018, 101, 81-90.	9.9	31
25	A holonic disturbance management architecture for flexible manufacturing systems. International Journal of Production Research, 2011, 49, 1269-1284.	7.5	29
26	Key Directions for Industrial Agent Based Cyber-Physical Production Systems. , 2019, , .		29
27	High-level Petri nets for the process description and control in service-oriented manufacturing systems. International Journal of Production Research, 2012, 50, 1650-1665.	7.5	28
28	Industrial Agents in the Era of Service-Oriented Architectures and Cloud-Based Industrial Infrastructures. , 2015, , 67-87.		26
29	Holonic Rationale and Self-organization on Design of Complex Evolvable Systems. Lecture Notes in Computer Science, 2009, , 1-12.	1.3	25
30	Software Methodologies for the Engineering of Service-Oriented Industrial Automation: The Continuum Project. , 2009, , .		25
31	Integration of virtual and real environments for engineering service-oriented manufacturing systems. Journal of Intelligent Manufacturing, 2012, 23, 2551-2563.	7.3	25
32	Specification of the PERFoRM architecture for the seamless production system reconfiguration. , 2016, , .		25
33	ARENAâ€™Augmented Reality to Enhanced Experimentation in Smart Warehouses. Sensors, 2019, 19, 4308.	3.8	25
34	Common practices for integrating industrial agents and low level automation functions. , 2017, , .		23
35	Multi-agent System Approach for the Strategic Planning in Ramp-Up Production of Small Lots. , 2013, , .		21
36	Multi-Agent System for On-demand Production Integrating Production and Quality Control. Lecture Notes in Computer Science, 2011, , 84-93.	1.3	21

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37	Self-Organization in Manufacturing Systems: Challenges and Opportunities. , 2008, , .		19
38	Quo Vadis Industry 4.0? Position, Trends, and Challenges. IEEE Open Journal of the Industrial Electronics Society, 2020, 1, 298-310.	6.8	19
39	Selection of a data exchange format for industry 4.0 manufacturing systems. , 2016, , .		18
40	Nervousness in Dynamic Self-organized Holonic Multi-agent Systems. Advances in Intelligent and Soft Computing, 2012, , 9-17.	0.2	17
41	A 70-Year Industrial Electronics Society Evolution Through Industrial Revolutions: The Rise and Flourishing of Information and Communication Technologies. IEEE Industrial Electronics Magazine, 2021, 15, 115-126.	2.6	17
42	Digital Technologies for Innovative Mental Health Rehabilitation. Electronics (Switzerland), 2021, 10, 2260.	3.1	17
43	Multi-agent systems as automation platform for intelligent energy systems. , 2013, , .		16
44	Assessing the Integration of Software Agents and Industrial Automation Systems with ISO/IEC 25010. , 2018, , .		16
45	GRACE ontology inteGrating pRocess and quAlity Control. , 2012, , .		15
46	Integration Patterns for Interfacing Software Agents with Industrial Automation Systems. , 2018, , .		15
47	The Applicability of ISO/IEC 25023 Measures to the Integration of Agents and Automation Systems. , 2018, , .		15
48	Extension of holonic paradigm to smart grids. IFAC-PapersOnLine, 2015, 48, 1099-1104.	0.9	14
49	Integration and Deployment of a Distributed and Pluggable Industrial Architecture for the PERFoRM Project. Procedia Manufacturing, 2017, 11, 896-904.	1.9	14
50	A Survey on Factors that Impact Industrial Agent Acceptance. , 2015, , 401-429.		14
51	Multi-Agent Systems to Implement Industry 4.0 Components. , 2020, , .		14
52	Modelling and simulating self-organizing agent-based manufacturing systems. , 2010, , .		13
53	Engineering of Next Generation Cyber-Physical Automation System Architectures. , 2017, , 185-206.		13
54	Multi-agent System Architecture for Zero Defect Multi-stage Manufacturing. Studies in Computational Intelligence, 2018, , 13-26.	0.9	13

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55	Petri net based Methodology for the Development of Collaborative Production Systems. , 2006, , .		12
56	A switching mechanism framework for optimal coupling of predictive scheduling and reactive control in manufacturing hybrid control architectures. International Journal of Production Research, 2016, 54, 7027-7042.	7.5	12
57	Digital Twin based What-if Simulation for Energy Management. , 2021, , .		12
58	Holonic Rationale and Bio-inspiration on Design of Complex Emergent and Evolvable Systems. Lecture Notes in Computer Science, 2009, , 243-266.	1.3	12
59	Implementation of a Multi-Agent System to Support ZDM Strategies in Multi-Stage Environments. , 2018, , .		11
60	WsBot: A Tiny, Low-Cost Swarm Robot for Experimentation on Industry 4.0. , 2019, , .		11
61	Integration Challenges for the Deployment of a Multi-Stage Zero-Defect Manufacturing Architecture. , 2019, , .		10
62	Structural Self-organized Holonic Multi-Agent Manufacturing Systems. Lecture Notes in Computer Science, 2013, , 59-70.	1.3	10
63	Agent-Based Asset Administration Shell Approach for Digitizing Industrial Assets. IFAC-PapersOnLine, 2022, 55, 193-198.	0.9	10
64	Standards compliance in industrial agents applications. , 2013, , .		9
65	Governance mechanism in control architectures for flexible manufacturing systems. IFAC-PapersOnLine, 2015, 48, 1093-1098.	0.9	9
66	Towards Self-organized Service-Oriented Multi-agent Systems. Studies in Computational Intelligence, 2013, , 41-56.	0.9	9
67	Quality control agents for adaptive visual inspection in production lines. , 2012, , .		8
68	Self-Organized Holonic Multi-agent Manufacturing System: The Behavioural Perspective. , 2013, , .		8
69	Adaptive scheduling based on self-organized holonic swarm of schedulers. , 2014, , .		8
70	Performance Assessment Of The Integration Between Industrial Agents And Low-Level Automation Functions. , 2018, , .		8
71	Self-Adaptation for Robustness and Cooperation in Holonic Multi-Agent Systems. Lecture Notes in Computer Science, 2009, , 267-288.	1.3	8
72	Virtual Reality Rehabilitationâ€™s Impact on Negative Symptoms and Psychosocial Rehabilitation in Schizophrenia Spectrum Disorder: A Systematic Review. Healthcare (Switzerland), 2021, 9, 1429.	2.0	8

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73	Deployment of industrial agents in heterogeneous automation environments. , 2015, , .		7
74	Predictive data analysis driven multi-agent system approach for electrical micro grids management. , 2016, , .		7
75	A community analysis of the IEEE IES industrial agents technical committee. , 2017, , .		7
76	Empowering Humans in a Cyber-Physical Production System: Human-in-the-loop Perspective. , 2019, , .		7
77	Agent-Based Distributed Data Analysis in Industrial Cyber-Physical Systems. IEEE Journal of Emerging and Selected Topics in Industrial Electronics, 2022, 3, 5-12.	3.9	7
78	Recommendation of Best Practices for Industrial Agent Systems based on the IEEE 2660.1 Standard. , 2021, , .		7
79	Industrial Cyber Physical Systems Supported by Distributed Advanced Data Analytics. Studies in Computational Intelligence, 2017, , 47-59.	0.9	7
80	Customizable service-oriented Petri net controllers. , 2009, , .		6
81	Deployment of multi-agent systems for industrial applications. , 2012, , .		6
82	Summer school on intelligent agents in automation: Hands-on educational experience on deploying industrial agents. , 2016, , .		6
83	Quo Vadis Industry 4.0: An Overview Based on Scientific Publications Analytics. , 2018, , .		6
84	IASelect: Finding Best-fit Agent Practices in Industrial CPS Using Graph Databases. , 2019, , .		6
85	Multi-agent Systems in Industry: Current Trends & Future Challenges. Topics in Intelligent Engineering and Informatics, 2013, , 197-201.	0.4	6
86	Adaptive Multi-Agent System for a Washing Machine Production Line. Lecture Notes in Computer Science, 2013, , 212-223.	1.3	6
87	Improving the Mobile Robots Indoor Localization System by Combining SLAM with Fiducial Markers. , 2021, , .		6
88	Holonic Manufacturing Control: A Practical Implementation. , 2004, , 33-44.		5
89	Genetic algorithm for flexible job shop scheduling problem - A case study. AIP Conference Proceedings, 2015, , .	0.4	5
90	Development of a smart electric motor testbed for Internet of Things and big data technologies. , 2017, , .		5

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91	Agent-based reconfiguration in a micro-flow production cell. , 2017, , .		5
92	Hybrid System for Simultaneous Job Shop Scheduling and Layout Optimization Based on Multi-agents and Genetic Algorithm. Advances in Intelligent Systems and Computing, 2020, , 387-397.	0.6	5
93	Towards the generic integration of agent-based AASs and Physical Assets: a four-layered architecture approach. , 2021, , .		5
94	Self-interested Service-Oriented Agents Based on Trust and QoS for Dynamic Reconfiguration. Studies in Computational Intelligence, 2015, , 209-218.	0.9	5
95	A Fuzzy Logic Recommendation System to Support the Design of Cloud-Edge Data Analysis in Cyber-Physical Systems. IEEE Open Journal of the Industrial Electronics Society, 2022, 3, 174-187.	6.8	5
96	AN AGENT-BASED DISTURBANCE HANDLING ARCHITECTURE IN MANUFACTURING CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 50-55.	0.4	4
97	Enhancing ADACOR with biology insights towards reconfigurable manufacturing systems. , 2011, , .		4
98	Self-organized Holonic Manufacturing Systems Combining Adaptation and Performance Optimization. International Federation for Information Processing, 2012, , 163-170.	0.4	4
99	Co-Design Process for Upskilling the Workforce in the Factories of the Future. , 2021, , .		4
100	Smooth migration from the Virtual design to the real manufacturing control. , 2009, , .		3
101	Biological Inspiration to Solve Complexity in Intelligent and Adaptive Manufacturing Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 204-209.	0.4	3
102	Improving the ADACOR2 supervisor holon scheduling mechanism with genetic algorithms. AIP Conference Proceedings, 2015, , .	0.4	3
103	Simulating smart grid using a two-layer multiagent framework. , 2015, , .		3
104	Data scientist under the Da.Re perspective: analysis of training offers, skills and challenges. , 2018, , .		3
105	A Potential Field Load Scheduling Approach for Self-Sustainable Electrical Microgrids. , 2019, , .		3
106	<i>DepthLiDAR</i>: Active Segmentation of Environment Depth Map Into Mobile Sensors. IEEE Sensors Journal, 2021, 21, 19047-19057.	4.7	3
107	Instantiating the PERFoRM System Architecture for Industrial Case Studies. Studies in Computational Intelligence, 2017, , 359-372.	0.9	3
108	Agent-Based Approach for Decentralized Data Analysis in Industrial Cyber-Physical Systems. Lecture Notes in Computer Science, 2019, , 130-144.	1.3	3

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109	RECONFIGURABLE PRODUCTION CONTROL SYSTEMS: BEYOND ADACOR. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 129-134.	0.4	2
110	Adaptation of functional inspection test plan in a production line using a multi-agent system. , 2013, , .		2
111	Data collection for global monitoring and trend analysis in the GRACE multi-agent system. , 2013, , .		2
112	Sensibility study in a flexible job shop scheduling problem. , 2013, , .		2
113	Managing intelligent self-sustained electrical micro-grids. , 2014, , .		2
114	What-if game simulation in agent-based strategic production planners. , 2015, , .		2
115	Dynamic Switching Mechanism to Support Self-organization in ADACOR Holonic Control System. IFAC-PapersOnLine, 2016, 49, 161-166.	0.9	2
116	A Nervousness Regulator Framework for Dynamic Hybrid Control Architectures. Studies in Computational Intelligence, 2016, , 199-209.	0.9	2
117	Behavioural Validation of the ADACOR2 Self-organized Holonic Multi-agent Manufacturing System. Lecture Notes in Computer Science, 2015, , 59-70.	1.3	2
118	An Agent-Based Approach for the Dynamic and Decentralized Service Reconfiguration in Collaborative Production Scenarios. Lecture Notes in Computer Science, 2017, , 140-154.	1.3	2
119	Distributed Scheduling Based on Multi-agent Systems and Optimization Methods. Communications in Computer and Information Science, 2019, , 313-317.	0.5	2
120	Fault-Tolerance in Cyber-Physical Systems Using Holonic Multi-agent Systems. Studies in Computational Intelligence, 2022, , 51-63.	0.9	2
121	Multi-Agent System for Integrating Quality and Process Control in a Home Appliance Production Line. , 2015, , 287-300.		1
122	Analyzing standardization needs for applying agent technology in industrial environments. , 2016, , .		1
123	Agent-based modeling and simulation of a small scale cyber-physical system using NetLogo. , 2017, , .		1
124	Smart Inspection Tools Combining Multi-Agent Systems and Advanced Quality Control. , 2018, , .		1
125	An Approach for Characterizing the Operating Modes in Dynamic Hybrid Control Architectures. Lecture Notes in Computer Science, 2015, , 108-119.	1.3	1
126	A Holonic Approach to Dynamic Manufacturing Scheduling. International Federation for Information Processing, 2006, , 37-46.	0.4	1

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127	Holonic Recursiveness with Multi-Agent System Technologies. Advances in Intelligent Systems and Computing, 2013, , 103-111.	0.6	1
128	Adaptive Services Reconfiguration in Manufacturing Environments Using a Multi-agent System Approach. Lecture Notes in Computer Science, 2015, , 280-284.	1.3	1
129	Specification of a Device Interface for Service-Oriented Automation Control Components. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 284-289.	0.4	0
130	Towards robustness and self-organization of ESB-based solutions using service life-cycle management. , 2014, , .		0
131	A dynamic hybrid control architecture for sustainable manufacturing control. IFAC-PapersOnLine, 2016, 49, 114-119.	0.9	0
132	Engineering an ADACOR based solution into a small-scale production system. , 2016, , .		0
133	Holonic self-sustainable systems for electrical micro grids. , 2016, , .		0
134	Agent-Based Data Analysis Towards the Dynamic Adaptation of Industrial Automation Processes. IFIP Advances in Information and Communication Technology, 2016, , 99-106.	0.7	0
135	Summer School on intelligent agents in automation: Experience and reflections from the second edition. , 2017, , .		0
136	Self-organization Combining Incentives and Risk Management for a Dynamic Service-Oriented Multi-agent System. IFIP Advances in Information and Communication Technology, 2014, , 101-108.	0.7	0
137	Analysing the Impact of Rescheduling Time in Hybrid Manufacturing Control. Studies in Computational Intelligence, 2017, , 225-236.	0.9	0
138	PERFoRM System Architecture. , 2019, , 67-86.		0
139	Guest Editorial Industrial Agents: Concepts, Technologies, and Applications. IEEE Journal of Emerging and Selected Topics in Industrial Electronics, 2022, 3, 2-4.	3.9	0