Hesuan Hu

List of Publications by Year
in descending order

118 papers	1,926 citations	201385 27 h-index	276539 41 g-index
118 all docs	118 docs citations	118 times ranked	916 citing authors

#	ARTICLE	IF	CITATIONS
1	Security-Aware Collaboration Plan Recommendation for Dynamic Multiple Workflow Processes. IEEE Transactions on Dependable and Secure Computing, 2023, 20, 100-113.	3.7	5
2	Event Circuit Structures for Deadlock Avoidance in Flexible Manufacturing Systems. IEEE Transactions on Automation Science and Engineering, 2023, 20, 597-610.	3.4	2
3	Robustness Analysis of Automated Manufacturing Systems With Uncontrollable Events Using Petri Nets. IEEE Transactions on Automation Science and Engineering, 2023, 20, 775-788.	3.4	1
4	Analyzing Security Requirements in Timed Workflow Processes. IEEE Transactions on Dependable and Secure Computing, 2022, 19, 190-207.	3.7	8
5	Extended Place-Invariant Control in Automated Manufacturing Systems Using Petri Nets. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 1807-1822.	5.9	2
6	Discrete Event Approach to Robust Control in Automated Manufacturing Systems. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 123-135.	5.9	9
7	Robustness Analysis of Automated Manufacturing Systems With Unreliable Resources Using Petri Nets. IEEE Transactions on Automation Science and Engineering, 2022, 19, 3686-3699.	3.4	1
8	Maximally Permissive Deadlock and Livelock Avoidance for Automated Manufacturing Systems via Critical Distance. IEEE Transactions on Automation Science and Engineering, 2022, 19, 3838-3852.	3.4	4
9	Secure Conflicts Avoidance in Multidomain Environments: A Distributed Approach. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2021, 51, 5478-5489.	5.9	12
10	Implementation of Generalized Mutual Exclusion Constraints Using Critical Places and Marking Estimation. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2021, 51, 5067-5079.	5.9	7
11	Transient Process Optimization for Dual-Arm Cluster Tools With Wafer Revisiting. IEEE Access, 2021, 9, 50093-50105.	2.6	1
12	Event Circular Waits and Their Analysis via Petri Nets. IEEE Access, 2021, 9, 92586-92599.	2.6	1
13	Robust Deadlock Detection and Control of Automated Manufacturing Systems With Multiple Unreliable Resources Using Petri Nets. IEEE Transactions on Automation Science and Engineering, 2021, 18, 1790-1802.	3.4	12
14	Analysis of Authorization Constraints via Integer Linear Programming. IEEE Transactions on Knowledge and Data Engineering, 2021, , 1-1.	4.0	3
15	Criticality-Guided Deep Reinforcement Learning for Motion Planning. , 2021, , .		2
16	Optimal Supervisor Simplification in AMS based on Petri Nets and Genetic Algorithm. , 2021, , .		0
17	A Multilevel Non-interference Vulnerability Analysis Method for Information Leakage Problem. , 2021, , .		0
18	A Robust Control Approach to Automated Manufacturing Systems Allowing Multitype and Multiquantity of Resources With Petri Nets. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 3499-3514.	5.9	22

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19	A Distributed Control Approach to Automated Manufacturing Systems With Complex Routes and Operations Using Petri Nets. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 3670-3684.	5.9	14
20	A Survey on Robust Deadlock Control Policies for Automated Manufacturing Systems With Unreliable Resources. IEEE Transactions on Automation Science and Engineering, 2020, 17, 389-406.	3.4	29
21	Supervisory Control of Deadlock-Prone Production Systems With Routing Flexibility and Unreliable Resources. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 3528-3540.	5.9	15
22	Self-Adaptive Execution of Data-Aware Workflow Processes. IEEE Transactions on Industrial Informatics, 2020, 16, 7295-7305.	7.2	9
23	A distributed method to avoid higher-order deadlocks in multi-robot systems. Automatica, 2020, 112, 108706.	3.0	20
24	A Robust Control Approach to Automated Manufacturing Systems Combining Absorbing and Distributing Characteristics. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 5024-5036.	5.9	8
25	Dynamic Implementation of Security Requirements in Business Processes. IEEE Transactions on Dependable and Secure Computing, 2020, , 1-1.	3.7	4
26	Scheduling dual-arm cluster tools with multiple wafer types and residency time constraints. IEEE/CAA Journal of Automatica Sinica, 2020, 7, 776-789.	8.5	27
27	Robust Deadlock Avoidance and Control of Automated Manufacturing Systems With Assembly Operations Using Petri Nets. IEEE Transactions on Automation Science and Engineering, 2020, 17, 1961-1975.	3.4	27
28	On Liveness Enforcing Supervisory Policies for Arbitrary Petri Nets. IEEE Transactions on Automatic Control, 2020, 65, 5236-5247.	3.6	9
29	Flexible Process Planning and End-of-Life Decision-Making for Product Recovery Optimization Based on Hybrid Disassembly. IEEE Transactions on Automation Science and Engineering, 2019, 16, 311-326.	3.4	65
30	Time-Varying Automated Manufacturing Systems and Their Invariant-Based Control: A Petri Net Approach. IEEE Access, 2019, 7, 23149-23162.	2.6	4
31	Static and Dynamic Partitions of Inequalities: A Unified Methodology for Supervisor Simplification. IEEE Transactions on Automatic Control, 2019, 64, 4748-4755.	3.6	12
32	Implementation of Distributed Control of Hierarchical Assembly Systems via Extended Critical Places. IEEE Access, 2019, 7, 182937-182950.	2.6	1
33	Estimation of Least-Cost Transition Firing Sequences in Labeled Petri Nets by Using Basis Reachability Graph. IEEE Access, 2019, 7, 165387-165398.	2.6	4
34	Incremental Analysis of Temporal Constraints for Concurrent Workflow Processes With Dynamic Changes. IEEE Transactions on Industrial Informatics, 2019, 15, 2617-2627.	7.2	11
35	A Cyclic Scheduling Approach to Single-Arm Cluster Tools With Multiple Wafer Types and Residency Time Constraints. IEEE Transactions on Automation Science and Engineering, 2019, 16, 1373-1386.	3.4	26
36	A Real-Time and Fully Distributed Approach to Motion Planning for Multirobot Systems. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2019, 49, 2636-2650.	5.9	31

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37	Two-agent stochastic flow shop deteriorating scheduling via a hybrid multi-objective evolutionary algorithm. Journal of Intelligent Manufacturing, 2019, 30, 2257-2272.	4.4	75
38	Liveness-Enforcing Supervision in AMS-Oriented HAMGs: An Approach Based on New Characterization of Siphons Using Petri Nets. IEEE Transactions on Automatic Control, 2018, 63, 1987-2002.	3.6	18
39	Resource failure and buffer space allocation control for automated manufacturing systems. Information Sciences, 2018, 450, 392-408.	4.0	26
40	Polynomial-complexity supervisory control for flexible assembly systems based on Petri nets. International Journal of Computer Integrated Manufacturing, 2018, 31, 71-86.	2.9	2
41	A Robust Prevention Method for Automated Manufacturing Systems With Unreliable Resources Using Petri Nets. IEEE Access, 2018, 6, 78598-78608.	2.6	12
42	Task Allocation Policy for UGV Systems using Colored Petri Nets. , 2018, , .		4
43	Java Software for Petri-Net-Based Approaches to Discrete Event Systems. , 2018, , .		7
44	A distributed approach to robust control of multi-robot systems. Automatica, 2018, 98, 1-13.	3.0	29
45	Model checking of timed compatibility for mediation-aided web service composition: A three stage approach. Expert Systems With Applications, 2018, 112, 190-207.	4.4	6
46	Novel Two-Phase Approach for Process Optimization of Customer Collaborative Design Based on Fuzzy-QFD and DSM. IEEE Transactions on Engineering Management, 2017, 64, 193-207.	2.4	44
47	Collision and Deadlock Avoidance in Multirobot Systems: A Distributed Approach. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2017, 47, 1712-1726.	5.9	55
48	A distributed approach to automated manufacturing systems with complex structures using Petri nets. , 2017, , .		1
49	Static and dynamic partitions of inequalities and their application in supervisor simplification. , 2017, , .		1
50	Decentralized supervisory control of Generalized Mutual Exclusion Constraints in Petri Nets. , 2017, , .		0
51	Robust control of automated manufacturing systems with complex structures using Petri Nets. , 2017, , .		4
52	A robust control approach to automated manufacturing systems allowing failures and reworks with Petri nets. , 2017, , .		5
53	A robust control approach to AMSs allowing multiple types of resources via Petri Nets. , 2017, , .		6
54	Distributed supervisor synthesis for automated manufacturing systems with flexible routes and assembly operations using Petri nets. , 2016, , .		0

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55	Backward conflict free systems with resources and their distributed control using Petri nets. , 2016, , .		0
56	Mono-T-semiflow systems with resources and their distributed control using Petri nets. , 2016, , .		0
57	Critical stages and their application in large scale automated manufacturing systems via Petri nets. , 2016, , .		0
58	Robust control of automated manufacturing systems with flexibility embedded synchronizations using Petri nets. , 2016, , .		0
59	Robust control of Mono-T-Semiflow Processes with resources using Petri nets. , 2016, , .		1
60	Critical stages and their identification in large scale automated manufacturing systems via Petri nets. , 2016, , .		0
61	Deadlock and blockage control for manufacturing systems with failure€prone workstations. IET Control Theory and Applications, 2016, 10, 939-946.	1.2	8
62	Distributed deadlock avoidance in automated manufacturing systems with forward conflict free structures using Petri nets. , 2016, , .		2
63	Robust control of Backward Conflict Free Systems with Resources using Petri nets. , 2016, , .		3
64	Structure independence of supervisor simplification in automated manufacturing systems using Petri nets. , 2016, , .		0
65	Petri-net-based robust supervisory control of automated manufacturing systems. Control Engineering Practice, 2016, 54, 176-189.	3.2	29
66	Sliding Mode Control: The Delta-Sigma Modulation Approach [Bookshelf]. IEEE Control Systems, 2016, 36, 139-140.	1.0	1
67	Polynomially Complex Synthesis of Distributed Supervisors for Large-Scale AMSs Using Petri Nets. IEEE Transactions on Control Systems Technology, 2016, 24, 1610-1622.	3.2	44
68	Supervisor Simplification in FMSs: Comparative Studies and New Results Using Petri Nets. IEEE Transactions on Control Systems Technology, 2016, 24, 81-95.	3.2	36
69	Maximally Permissive Distributed Control of Large Scale Automated Manufacturing Systems Modeled With Petri Nets. IEEE Transactions on Control Systems Technology, 2015, 23, 2026-2034.	3.2	47
70	Supervisor Synthesis and Performance Improvement for Automated Manufacturing Systems by Using Petri Nets. IEEE Transactions on Industrial Informatics, 2015, 11, 450-458.	7.2	31
71	Stochastic Cost-Profit Tradeoff Model for Locating an Automotive Service Enterprise. IEEE Transactions on Automation Science and Engineering, 2015, 12, 580-587.	3.4	36
72	Is multicore supervisory controller synthesis in the Ramadge-Wonham framework feasible?. , 2015, , .		0

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73	Maximally permissive distributed control of automated manufacturing systems with assembly operations using Petri nets. , 2015, , .		3
74	Time-varying automated manufacturing systems and their event-based control: A Petri net approach. , 2015, , .		2
75	Robust supervision using shared-buffers in automated manufacturing systems with unreliable resources. Computers and Industrial Engineering, 2015, 83, 139-150.	3.4	31
76	Supervisor design and simplification for Automated Manufacturing Systems using colored Petri nets. , 2015, , .		4
77	Intelligent manufacturing: New advances and challenges. Journal of Intelligent Manufacturing, 2015, 26, 841-843.	4.4	8
78	A Petri net-based distributed control of automated manufacturing systems with assembly operations. , 2015, , .		12
79	Robust supervisor synthesis for automated manufacturing systems using Petri nets. , 2015, , .		22
80	Supervisors and their simplification in automated manufacturing systems via Petri nets. , 2015, , .		2
81	An approach to specification simplification in automated manufacturing systems using invariance and inequality analysis. , 2015, , .		1
82	A Petri Net-Based Discrete-Event Control of Automated Manufacturing Systems With Assembly Operations. IEEE Transactions on Control Systems Technology, 2015, 23, 513-524.	3.2	100
83	Distributed supervisor synthesis for automated manufacturing systems using Petri nets. , 2014, , .		14
84	Supervisor Simplification for AMS Based on Petri Nets and Inequality Analysis. IEEE Transactions on Automation Science and Engineering, 2014, 11, 66-77.	3.4	55
85	Simplifying supervisory controllers of automated manufacturing systems via Petri net modeling and multiset analysis. , 2014, , .		0
86	An Optimization Approach to Improved Petri Net Controller Design for Automated Manufacturing Systems. IEEE Transactions on Automation Science and Engineering, 2013, 10, 772-782.	3.4	45
87	One computationally improved deadlock prevention policy for flexible manufacturing systems using Petri nets. , 2013, , .		0
88	A polynomial deadlock avoidance policy for a class of assembly processes based on Petri nets. , 2013, , .		0
89	Robust deadlock control using shared-resources for production systems with unreliable workstations. , 2013, , .		1
90	Liveness and resource usage ratio-enforcing supervisor for a class of generalized Petri nets. , 2013, , .		0

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91	Maximally permissive distributed control of large scale automated manufacturing systems modeled with Petri nets. , 2013, , .		3
92	Deadlock-Free Control of Automated Manufacturing Systems With Flexible Routes and Assembly Operations Using Petri Nets. IEEE Transactions on Industrial Informatics, 2013, 9, 109-121.	7.2	89
93	An extraction algorithm for a set of elementary siphons based on mixed-integer programming. Journal of Systems Science and Systems Engineering, 2012, 21, 106-125.	0.8	9
94	Liveness and Ratio-Enforcing Supervision of Automated Manufacturing Systems Using Petri Nets. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2012, 42, 392-403.	3.4	42
95	Supervisor Optimization for Deadlock Resolution in Automated Manufacturing Systems With Petri Nets. IEEE Transactions on Automation Science and Engineering, 2011, 8, 794-804.	3.4	56
96	Supervisor Design to Enforce Production Ratio and Absence of Deadlock in Automated Manufacturing Systems. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2011, 41, 201-212.	3.4	54
97	Reversed fuzzy Petri nets and their application for fault diagnosis. Computers and Industrial Engineering, 2011, 60, 505-510.	3.4	60
98	Synthesis of liveness enforcing supervisor for automated manufacturing systems using insufficiently marked siphons. Journal of Intelligent Manufacturing, 2010, 21, 555-567.	4.4	22
99	Deadlock resolution method for automated manufacturing systems modeled with Petri nets. , 2010, , .		0
100	An optimization approach towards improved Petri net monitor design. , 2010, , .		0
101	Hybrid liveness-enforcing method for Petri net models of flexible manufacturing systems. , 2010, , .		0
102	Suboptimal liveness-enforcing supervisor design for a class of generalised Petri nets using partial siphon enumeration and mathematical programming. International Journal of Systems Science, 2010, 41, 1013-1026.	3.7	25
103	Algebraic Synthesis of Timed Supervisor for Automated Manufacturing Systems Using Petri Nets. IEEE Transactions on Automation Science and Engineering, 2010, 7, 549-557.	3.4	57
104	Deadlock-free control of ratio-enforced automated manufacturing systems with flexible routes and assembly operations. , 2010, , .		0
105	Low-Cost and High-Performance Supervision in Ratio-Enforced Automated Manufacturing Systems Using Timed Petri Nets. IEEE Transactions on Automation Science and Engineering, 2010, 7, 933-944.	3.4	58
106	Supervisory controller optimization for deadlock resolution in automated manufacturing systems with timed Petri nets. , 2009, , .		1
107	Efficient deadlock prevention policy in automated manufacturing systems using exhausted resources. International Journal of Advanced Manufacturing Technology, 2009, 40, 566-571.	1.5	22
108	Modeling and scheduling for manufacturing grid workflows using timed Petri nets. International Journal of Advanced Manufacturing Technology, 2009, 42, 553-568.	1.5	39

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109	Local and global deadlock prevention policies for resource allocation systems using partially generated reachability graphs. Computers and Industrial Engineering, 2009, 57, 1168-1181.	3.4	38
110	Clarification on the Computation of Liveness-Enforcing Supervisor for Resource Allocation Systems With Uncontrollable Behavior. IEEE Transactions on Automation Science and Engineering, 2009, 6, 557-559.	3.4	18
111	A new class of Petri nets for modeling and control of ratio-enforced resource allocation systems. , 2009, , .		1
112	Liveness Enforcing Supervision of Video Streaming Systems Using Nonsequential Petri Nets. IEEE Transactions on Multimedia, 2009, 11, 1457-1465.	5.2	61
113	An optimal-elementary-siphons-based iterative deadlock prevention policy for flexible manufacturing systems. International Journal of Advanced Manufacturing Technology, 2008, 38, 309-320.	1.5	27
114	Two generalized-petri-net-based strategies for deadlock prevention in resource allocation systems. Conference Proceedings IEEE International Conference on Systems, Man, and Cybernetics, 2008, , .	0.0	0
115	Deadlock Prevention Policy based on Elementary Siphons for Flexible Manufacturing systems. , 2008, , .		0
116	An algorithm for an optimal set of elementary siphons in Petri nets for deadlock control. , 0, , .		2
117	An algorithm for elementary siphons in PN. , 0, , .		0
118	On the Optimal Set of Elementary Siphons in Petri Nets for Deadlock Control in FMS. , 0, , .		1