Shiyan Hu

List of Publications by Year
in descending order

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135	2,996	201674	206112
papers	citations	27 h-index	48 g-index

137	137	137	2537
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	LIAS: A Lightweight Incentive Authentication Scheme for Forensic Services in IoV. IEEE Transactions on Automation Science and Engineering, 2023, 20, 805-820.	5.2	4
2	Adaptive Multimode Process Monitoring Based on Mode-Matching and Similarity-Preserving Dictionary Learning. IEEE Transactions on Cybernetics, 2023, 53, 3974-3987.	9.5	18
3	A Kaiser Window-Based S-Transform for Time-Frequency Analysis of Power Quality Signals. IEEE Transactions on Industrial Informatics, 2022, 18, 965-975.	11.3	27
4	Digital Twinning Based Adaptive Development Environment for Automotive Cyber-Physical Systems. IEEE Transactions on Industrial Informatics, 2022, 18, 1387-1396.	11.3	17
5	Outlier Detection for Process Monitoring in Industrial Cyber-Physical Systems. IEEE Transactions on Automation Science and Engineering, 2022, 19, 2487-2498.	5.2	7
6	Throughput-Conscious Energy Allocation and Reliability-Aware Task Assignment for Renewable Powered In-Situ Server Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 516-529.	2.7	41
7	DRHEFT: Deadline-Constrained Reliability-Aware HEFT Algorithm for Real-Time Heterogeneous MPSoC Systems. IEEE Transactions on Reliability, 2022, 71, 178-189.	4.6	32
8	Improved S-Transform for Time-Frequency Analysis for Power Quality Disturbances. IEEE Transactions on Power Delivery, 2022, 37, 2942-2952.	4.3	9
9	Small-signal stability and robustness analysis for microgrids under time-constrained DoS attacks and a mitigation adaptive secondary control method. Science China Information Sciences, 2022, 65, 1.	4.3	16
10	Unified Stationary and Nonstationary Data Representation for Process Monitoring in IIoT. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-12.	4.7	3
11	Exploring Placement of Heterogeneous Edge Servers for Response Time Minimization in Mobile Edge-Cloud Computing. IEEE Transactions on Industrial Informatics, 2021, 17, 494-503.	11.3	74
12	Two-Layer Game Theoretic Microgrid Capacity Optimization Considering Uncertainty of Renewable Energy. IEEE Systems Journal, 2021, 15, 4260-4271.	4.6	25
13	Risk Assessment and Development Cost Optimization in Software Defined Vehicles. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 3675-3686.	8.0	5
14	Leveraging Spatial Correlation for Sensor Drift Calibration in Smart Building. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 1273-1286.	2.7	5
15	A Collaborative and Sustainable Edge-Cloud Architecture for Object Tracking with Convolutional Siamese Networks. IEEE Transactions on Sustainable Computing, 2021, 6, 144-154.	3.1	8
16	Reliability and Confidentiality Co-Verification for Parallel Applications in Distributed Systems. IEEE Transactions on Parallel and Distributed Systems, 2021, 32, 1353-1368.	5.6	12
17	Software and hardware <scp>coâ€design</scp> for sustainable <scp>cyberâ€physical</scp> systems. Software - Practice and Experience, 2021, 51, 2105-2107.	3.6	1
18	A Survey on Edge and Edge-Cloud Computing Assisted Cyber-Physical Systems. IEEE Transactions on Industrial Informatics, 2021, 17, 7806-7819.	11.3	118

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19	Efficient Federated Learning for Cloud-Based AIoT Applications. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 2211-2223.	2.7	26
20	FedLight: Federated Reinforcement Learning for Autonomous Multi-Intersection Traffic Signal Control. , 2021, , .		9
21	Stochastic scheduling for variation-aware virtual machine placement in a cloud computing CPS. Future Generation Computer Systems, 2020, 105, 779-788.	7.5	12
22	Stochastic Workload Scheduling for Uncoordinated Datacenter Clouds with Multiple QoS Constraints. IEEE Transactions on Cloud Computing, 2020, 8, 1284-1295.	4.4	12
23	Queueing Theoretic Approach for Performance-Aware Modeling of Sustainable SDN Control Planes. IEEE Transactions on Sustainable Computing, 2020, 5, 121-133.	3.1	4
24	Online Generative Adversary Network Based Measurement Recovery in False Data Injection Attacks: A Cyber-Physical Approach. IEEE Transactions on Industrial Informatics, 2020, 16, 2031-2043.	11.3	66
25	Uncertainty-Aware Flight Scheduling for Airport Throughput and Flight Delay Optimization. IEEE Transactions on Aerospace and Electronic Systems, 2020, 56, 853-862.	4.7	18
26	Detecting Dynamic Attacks in Smart Grids Using Reservoir Computing: A Spiking Delayed Feedback Reservoir Based Approach. IEEE Transactions on Emerging Topics in Computational Intelligence, 2020, 4, 253-264.	4.9	24
27	Augmented Cross-Entropy-Based Joint Temperature Optimization of Real-Time 3-D MPSoC Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 1987-1999.	2.7	1
28	Exploring Renewable-Adaptive Computation Offloading for Hierarchical QoS Optimization in Fog Computing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2095-2108.	2.7	35
29	IPANM: Incentive Public Auditing Scheme for Non-Manager Groups in Clouds. IEEE Transactions on Dependable and Secure Computing, 2020, , 1-1.	5.4	10
30	Big Data for Cyber-Physical Systems. IEEE Transactions on Big Data, 2020, 6, 606-608.	6.1	2
31	Security-Critical Energy-Aware Task Scheduling for Heterogeneous Real-Time MPSoCs in IoT. IEEE Transactions on Services Computing, 2020, 13, 745-758.	4.6	110
32	Customer Perceived Value- and Risk-Aware Multiserver Configuration for Profit Maximization. IEEE Transactions on Parallel and Distributed Systems, 2020, 31, 1074-1088.	5.6	28
33	Security-Aware Obfuscated Priority Assignment for CAN FD Messages in Real-Time Parallel Automotive Applications. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 4413-4425.	2.7	12
34	Cyber-Physical Systems: An Overview. , 2020, , 1-11.		4
35	Trusted Anonymous Authentication For Vehicular Cyber-Physical Systems. , 2020, , .		1
36	Affinity-Driven Modeling and Scheduling for Makespan Optimization in Heterogeneous Multiprocessor Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 1189-1202.	2.7	37

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37	Improving Availability of Multicore Real-Time Systems Suffering Both Permanent and Transient Faults. IEEE Transactions on Computers, 2019, 68, 1785-1801.	3.4	100
38	Economical and balanced production in smart Petroleum Cyberâ€“Physical System. Future Generation Computer Systems, 2019, 95, 364-371.	7.5	4
39	A Discrete Curvature Estimation Based Low-Distortion Adaptive Savitzkyâ€“Golay Filter for ECG Denoising. Sensors, 2019, 19, 1617.	3.8	17
40	Game Theoretic Feedback Control for Reliability Enhancement of EtherCAT-Based Networked Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 1599-1610.	2.7	6
41	A Survey of Deployment Solutions and Optimization Strategies for Hybrid SDN Networks. IEEE Communications Surveys and Tutorials, 2019, 21, 1483-1507.	39.4	63
42	A survey of optimization techniques for thermal-aware 3D processors. Journal of Systems Architecture, 2019, 97, 397-415.	4.3	89
43	Resource Management for Improving Soft-Error and Lifetime Reliability of Real-Time MPSoCs. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 2215-2228.	2.7	123
44	QoS-Adaptive Approximate Real-Time Computation for Mobility-Aware IoT Lifetime Optimization. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 1799-1810.	2.7	94
45	Smart Home Cyberattack Detection Framework for Sponsor Incentive Attacks. IEEE Transactions on Smart Grid, 2019, 10, 1916-1927.	9.0	13
46	Stochastic Buffering for Bundled SWCNT Interconnects Considering Unidimensional Fabrication Variation. IEEE Transactions on Emerging Topics in Computing, 2019, 7, 585-595.	4.6	1
47	Energy-efficient ECG compression in wearable body sensor network by leveraging empirical mode decomposition. , 2018, , .		8
48	TriboMotion: A Self-Powered Triboelectric Motion Sensor in Wearable Internet of Things for Human Activity Recognition and Energy Harvesting. IEEE Internet of Things Journal, 2018, 5, 4441-4453.	8.7	40
49	Combating Coordinated Pricing Cyberattack and Energy Theft in Smart Home Cyber-Physical Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 573-586.	2.7	23
50	Energy Theft Detection in Multi-Tenant Data Centers with Digital Protective Relay Deployment. IEEE Transactions on Sustainable Computing, 2018, 3, 16-29.	3.1	9
51	Thermal-aware correlated two-level scheduling of real-time tasks with reduced processor energy on heterogeneous MPSoCs. Journal of Systems Architecture, 2018, 82, 1-11.	4.3	76
52	ECG Signal Compression for Low-power Sensor Nodes Using Sparse Frequency Spectrum Features. , 2018, , .		4
53	Design Automation for Cyber-Physical Systems [Scanning the Issue]. Proceedings of the IEEE, 2018, 106, 1479-1483.	21.3	10
54	Lorenz Chaotic System-Based Carbon Nanotube Physical Unclonable Functions. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 1408-1421.	2.7	21

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55	IEEE Transactions on Sustainable Computing: Guest Editorial on Special Issue on Sustainable Cyber-Physical Systems. IEEE Transactions on Sustainable Computing, 2018, 3, 58-59.	3.1	2
56	Gain Scheduled Torque Compensation of PMSG-Based Wind Turbine for Frequency Regulation in an Isolated Grid. Energies, 2018, 11, 1623.	3.1	10
57	Developing User Perceived Value Based Pricing Models for Cloud Markets. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 2742-2756.	5.6	47
58	Game-Theoretic Market-Driven Smart Home Scheduling Considering Energy Balancing. IEEE Systems Journal, 2017, 11, 910-921.	4.6	33
59	Introduction to Cyber-Physical System Security: A Cross-Layer Perspective. IEEE Transactions on Multi-Scale Computing Systems, 2017, 3, 215-227.	2.4	66
60	Design Automation of Cyber-Physical Systems: Challenges, Advances, and Opportunities. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 1421-1434.	2.7	107
61	Design Automation for Interwell Connectivity Estimation in Petroleum Cyber-Physical Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 255-264.	2.7	22
62	Renewable Energy Pricing Driven Scheduling in Distributed Smart Community Systems. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 1445-1456.	5.6	18
63	Offshore oil spill monitoring and detection: Improving risk management for offshore petroleum cyber-physical systems: (Invited paper). , 2017, , .		8
64	A comparative study on neural network-based prediction of smart community energy consumption. , 2017, , .		2
65	Guest Editorial Leveraging Design Automation Techniques for Cyber-Physical System Design. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 697-698.	2.7	1
66	Guest Editorial: Hardware/Software Cross-Layer Technologies for Trustworthy and Secure Computing. IEEE Transactions on Multi-Scale Computing Systems, 2016, 2, 144-145.	2.4	2
67	Analysis of production data manipulation attacks in petroleum cyber-physical systems. , 2016, , .		7
68	Placement optimization of cyber-physical digital microfluidic biochips. , 2016, , .		6
69	Buffering Carbon Nanotube Interconnects Considering Inductive Effects. Journal of Circuits, Systems and Computers, 2016, 25, 1650093.	1.5	2
70	A Computing Perspective on Smart City [Guest Editorial]. IEEE Transactions on Computers, 2016, 65, 1337-1338.	3.4	19
71	Leveraging carbon nanotube technologies in developing Physically Unclonable Function for cyber-physical system authentication. , 2016, , .		6
72	The Hierarchical Smart Home Cyberattack Detection Considering Power Overloading and Frequency Disturbance. IEEE Transactions on Industrial Informatics, 2016, 12, 1973-1983.	11.3	23

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73	CEVP: Cross Entropy based Virtual Machine Placement for Energy Optimization in Clouds. Journal of Supercomputing, 2016, 72, 3194-3209.	3.6	21
74	Preventive Maintenance for Advanced Metering Infrastructure Against Malware Propagation. IEEE Transactions on Smart Grid, 2016, 7, 1314-1328.	9.0	49
75	Leveraging Strategic Detection Techniques for Smart Home Pricing Cyberattacks. IEEE Transactions on Dependable and Secure Computing, 2016, 13, 220-235.	5.4	46
76	EBL Overlapping Aware Stencil Planning for MCC System. ACM Transactions on Design Automation of Electronic Systems, 2016, 21, 1-24.	2.6	2
77	Timing-driven placement for carbon nanotube circuits. , 2015, , .		2
78	Cyberthreat Analysis and Detection for Energy Theft in Social Networking of Smart Homes. IEEE Transactions on Computational Social Systems, 2015, 2, 148-158.	4.4	61
79	Cyber-physical integration in programmable microfluidic biochips. , 2015, , .		2
80	Smart Home Scheduling for Cost Reduction and Its Implementation on FPGA. Journal of Circuits, Systems and Computers, 2015, 24, 1550044.	1.5	7
81	Impact assessment of net metering on smart home cyberattack detection. , 2015, , .		9
82	Cloud Computing for VLSI Floorplanning Considering Peak Temperature Reduction. IEEE Transactions on Emerging Topics in Computing, 2015, 3, 534-543.	4.6	6
83	Distributed Generation Placement for Power Distribution Networks. Journal of Circuits, Systems and Computers, 2015, 24, 1550009.	1.5	6
84	Sharp Corner/Edge Recognition in Domestic Environments Using RGB-D Camera Systems. IEEE Transactions on Circuits and Systems II: Express Briefs, 2015, 62, 987-991.	3.0	16
85	A Dynamic Programming Algorithm for Leveraging Probabilistic Detection of Energy Theft in Smart Home. IEEE Transactions on Emerging Topics in Computing, 2015, 3, 502-513.	4.6	52
86	Cyber-physical systems: A security perspective. , 2015, , .		50
87	Economical and Balanced Energy Usage in the Smart Home Infrastructure: A Tutorial and New Results. IEEE Transactions on Emerging Topics in Computing, 2015, 3, 556-570.	4.6	59
88	Vulnerability assessment and defense technology for smart home cybersecurity considering pricing cyberattacks. , 2014, , .		22
89	Variation-Aware Layer Assignment With Hierarchical Stochastic Optimization on a Multicore Platform. IEEE Transactions on Emerging Topics in Computing, 2014, 2, 488-500.	4.6	1
90	Dynamic programming based game theoretic algorithm for economical multi-user smart home scheduling. , 2014, , .		23

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91	Guest Editorial Special Section on Building Automation, Smart Homes, and Communities. IEEE Transactions on Industrial Informatics, 2014, 10, 676-679.	11.3	8
92	Physical-Level Synthesis for Digital Lab-On-a-Chip Considering Variation, Contamination, and Defect. IEEE Transactions on Nanobioscience, 2014, 13, 3-11.	3.3	12
93	Buffering Single-Walled Carbon Nanotubes Bundle Interconnects for Timing Optimization. , 2014, , .		2
94	A linear time approximation scheme for computing geometric maximum k-star. Journal of Global Optimization, 2013, 55, 849-855.	1.8	1
95	Strategic FRTU Deployment Considering Cybersecurity in Secondary Distribution Network. IEEE Transactions on Smart Grid, 2013, 4, 1264-1274.	9.0	36
96	Uncertainty-Aware Household Appliance Scheduling Considering Dynamic Electricity Pricing in Smart Home. IEEE Transactions on Smart Grid, 2013, 4, 932-941.	9.0	273
97	CATALYST: Planning Layer Directives for Effective Design Closure. , 2013, , .		7
98	THE POWER DISTRIBUTION NETWORK EXPANSION PLANNING BASED ON STACKELBERG MINIMUM WEIGHT K-STAR GAME. Journal of Circuits, Systems and Computers, 2013, 22, 1350041.	1.5	3
99	DISCRETE WAVELET TRANSFORM BASED CIRCUIT LAYOUT FINGERPRINTING USING CHAOTIC SYSTEM. Journal of Circuits, Systems and Computers, 2012, 21, 1250049.	1.5	1
100	ADAPTIVE FAULT-TOLERANT TASK SCHEDULING FOR REAL-TIME ENERGY HARVESTING SYSTEMS. Journal of Circuits, Systems and Computers, 2012, 21, 1250004.	1.5	6
101	Power grid analysis with hierarchical support graphs. , 2011, , .		16
102	The approximation scheme for peak power driven voltage partitioning. , 2011, , .		0
103	Multiscale Variation-Aware Techniques for High-Performance Digital Microfluidic Lab-on-a-Chip Component Placement. IEEE Transactions on Nanobioscience, 2011, 10, 51-58.	3.3	18
104	Reliability-Driven Energy-Efficient Task Scheduling for Multiprocessor Real-Time Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2011, 30, 1569-1573.	2.7	28
105	Hierarchical Cross-Entropy Optimization for Fast On-Chip Decap Budgeting. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2011, 30, 1610-1620.	2.7	11
106	Approximation scheme for restricted discrete gate sizing targeting delay minimization. Journal of Combinatorial Optimization, 2011, 21, 497-510.	1.3	4
107	An almost four-approximation algorithm forÂmaximum weight triangulation. Journal of Combinatorial Optimization, 2010, 19, 31-42.	1.3	1
108	Polynomial time approximation schemes for minimum disk cover problems. Journal of Combinatorial Optimization, 2010, 20, 399-412.	1.3	18

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109	A new asymmetric inclusion region for minimum weight triangulation. Journal of Global Optimization, 2010, 46, 63-73.	1.8	0
110	The fast optimal voltage partitioning algorithm for peak power density minimization. , 2010, , .		1
111	A transceiver-aware routing framework for on-chip nanophotonic integration. , 2010, , .		0
112	An Interconnect Reliability-Driven Routing Technique For Electromigration Failure Avoidance. IEEE Transactions on Dependable and Secure Computing, 2010, , .	5.4	4
113	Pattern Sensitive Placement Perturbation for Manufacturability. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2010, 18, 1002-1006.	3.1	5
114	A fully polynomial time approximation scheme for timing driven minimum cost buffer insertion. , 2009, , .		14
115	A fast general slew constrained minimum cost buffering algorithm. Microelectronics Journal, 2009, 40, 1482-1486.	2.0	0
116	A Fully Polynomial-Time Approximation Scheme for Timing-Constrained Minimum Cost Layer Assignment. IEEE Transactions on Circuits and Systems II: Express Briefs, 2009, 56, 580-584.	3.0	10
117	Gate Sizing for Cell-Library-Based Designs. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2009, 28, 818-825.	2.7	21
118	A faster approximation scheme for timing driven minimum cost layer assignment. , 2009, , .		12
119	Fast interconnect synthesis with layer assignment. , 2008, , .		30
120	A polynomial time approximation scheme for timing constrained minimum cost layer assignment. , 2008, , .		1
121	Pattern sensitive placement for manufacturability. , 2007, , .		18
122	Fast Algorithms for Slew-Constrained Minimum Cost Buffering. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2007, 26, 2009-2022.	2.7	51
123	Utilizing Redundancy for Timing Critical Interconnect. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2007, 15, 1067-1080.	3.1	3
124	A New Fast Slew Buffering Algorithm Without Input Slew Assumptions. , 2007, , .		1
125	Unified adaptivity optimization of clock and logic signals. IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, 2007, , .	0.0	1
126	A linear time algorithm for max-min length triangulation of a convex polygon. Information Processing Letters, 2007, 101, 203-208.	0.6	1

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127	Steiner network construction for timing critical nets. Proceedings - Design Automation Conference, 2006, , .	0.0	0
128	Fast algorithms for slew constrained minimum cost buffering. Proceedings - Design Automation Conference, 2006, , .	0.0	0
129	Optimizing Surplus Harmonics Distribution in PWM. Lecture Notes in Computer Science, 2004, , 366-375.	1.3	1
130	Quantum Neural Network for Image Watermarking. Lecture Notes in Computer Science, 2004, , 669-674.	1.3	2
131	Document Image Watermarking Based on Weight-Invariant Partition Using Support Vector Machine. Lecture Notes in Computer Science, 2004, , 546-554.	1.3	6
132	A New Document Watermarking Algorithm Based on Hybrid Multi-scale Ant Colony System. Lecture Notes in Computer Science, 2004, , 440-448.	1.3	2
133	Harmonic elimination for constrained optimal PWM. , 0, , .		7
134	Hybrid Trigonometric Differential Evolution for Optimizing Harmonic Distribution. , 0, , .		8
135	An Exploratory Investigation into Image-Data-Driven Deep Learning for Stability Analysis of Geosystems. Geotechnical and Geological Engineering, 0, , 1.	1.7	2