Yanzhi Wang

List of Publications by Year
in descending order

109 papers	2,254 citations	686830 13 h-index	794141 19 g-index
109 all docs	109 docs citations	109 times ranked	2510 citing authors

#	Article	IF	Citations
1	Spatiotemporal modeling and prediction in cellular networks: A big data enabled deep learning approach. , 2017, , .		242
2	Task Scheduling with Dynamic Voltage and Frequency Scaling for Energy Minimization in the Mobile Cloud Computing Environment. IEEE Transactions on Services Computing, 2015, 8, 175-186.	3.2	193
3	A Hierarchical Framework of Cloud Resource Allocation and Power Management Using Deep Reinforcement Learning. , 2017, , .		184
4	Adaptive Control for Energy Storage Systems in Households With Photovoltaic Modules. IEEE Transactions on Smart Grid, 2014, 5, 992-1001.	6.2	120
5	A Near-Optimal Model-Based Control Algorithm for Households Equipped With Residential Photovoltaic Power Generation and Energy Storage Systems. IEEE Transactions on Sustainable Energy, 2016, 7, 77-86.	5.9	104
6	A Stochastic Computational Multi-Layer Perceptron with Backward Propagation. IEEE Transactions on Computers, 2018, 67, 1273-1286.	2.4	73
7	Maximum power transfer tracking for a photovoltaic-supercapacitor energy system. , 2010, , .		70
8	An energy and deadline aware resource provisioning, scheduling and optimization framework for cloud systems. , 2013, , .		57
9	Performance Comparisons Between 7-nm FinFET and Conventional Bulk CMOS Standard Cell Libraries. IEEE Transactions on Circuits and Systems II: Express Briefs, 2015, 62, 761-765.	2.2	54
10	Towards acceleration of deep convolutional neural networks using stochastic computing. , 2017, , .		52
11	Charge Allocation in Hybrid Electrical Energy Storage Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 1003-1016.	1.9	49
12	Deep Reinforcement Learning for Dynamic Treatment Regimes on Medical Registry Data. , 2017, 2017, 380-385.		49
13	Architecture and Control Algorithms for Combating Partial Shading in Photovoltaic Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 917-930.	1.9	47
14	FinCACTI: Architectural Analysis and Modeling of Caches with Deeply-Scaled FinFET Devices. , 2014, , .		45
15	DSCNN: Hardware-oriented optimization for Stochastic Computing based Deep Convolutional Neural Networks. , 2016, , .		44
16	SC-DCNN. ACM SIGPLAN Notices, 2017, 52, 405-418.	0.2	42
17	A Memristor-Based Optimization Framework for Artificial Intelligence Applications. IEEE Circuits and Systems Magazine, 2018, 18, 29-44.	2.6	42
18	Deep reinforcement learning: Framework, applications, and embedded implementations: Invited paper. , 2017, , .		38

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19	Hardware-driven nonlinear activation for stochastic computing based deep convolutional neural networks. , 2017, , .		34
20	Stable spike-timing dependent plasticity rule for multilayer unsupervised and supervised learning. , 2017, , .		29
21	Designing reconfigurable large-scale deep learning systems using stochastic computing. , 2016, , .		26
22	Area-Efficient Scaling-Free DFT/FFT Design Using Stochastic Computing. IEEE Transactions on Circuits and Systems II: Express Briefs, 2016, 63, 1131-1135.	2.2	26
23	Fully-Parallel Area-Efficient Deep Neural Network Design Using Stochastic Computing. IEEE Transactions on Circuits and Systems II: Express Briefs, 2017, 64, 1382-1386.	2.2	26
24	A Reinforcement Learning-Based Power Management Framework for Green Computing Data Centers. , 2016, , .		23
25	Structural design optimization for deep convolutional neural networks using stochastic computing. , 2017, , .		22
26	A Nested Two Stage Game-Based Optimization Framework in Mobile Cloud Computing System. , 2013, , .		21
27	5nm FinFET Standard Cell Library Optimization and Circuit Synthesis in Near-and Super-Threshold Voltage Regimes. , 2014, , .		21
28	A Hierarchical Control Algorithm for Managing Electrical Energy Storage Systems in Homes Equipped with PV Power Generation. , 2012, , .		19
29	An electricity trade model for microgrid communities in smart grid. , 2014, , .		18
30	Memristor crossbar-based ultra-efficient next-generation baseband processors. , 2017, , .		18
31	Normalization and dropout for stochastic computing-based deep convolutional neural networks. The Integration VLSI Journal, 2019, 65, 395-403.	1.3	18
32	Reinforcement learning based dynamic power management with a hybrid power supply. , 2012, , .		17
33	Reinforcement learning-based control of residential energy storage systems for electric bill minimization. , 2015, , .		17
34	High-Accuracy FIR Filter Design Using Stochastic Computing. , 2016, , .		17
35	A Game Theoretic Framework of SLA-based Resource Allocation for Competitive Cloud Service Providers. , 2014, , .		16
36	Low write-energy STT-MRAMs using FinFET-based access transistors. , 2014, , .		15

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37	Trace-Based Analysis and Prediction of Cloud Computing User Behavior Using the Fractal Modeling Technique. , 2014, , .		15
38	Optimal co-scheduling of HVAC control and battery management for energy-efficient buildings considering state-of-health degradation. , 2016, , .		14
39	An Energy-Efficient Online-Learning Stochastic Computational Deep Belief Network. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 454-465.	2.7	14
40	Maximizing return on investment of a grid-connected hybrid electrical energy storage system. , 2013, , .		13
41	Stack sizing analysis and optimization for FinFET logic cells and circuits operating in the sub/near-threshold regime. , 2014, , .		13
42	A spike-based long short-term memory on a neurosynaptic processor. , 2017, , .		13
43	An optimization framework for data centers to minimize electric bill under day-ahead dynamic energy prices while providing regulation services. , 2014, , .		12
44	A semi-Markovian decision process based control method for offloading tasks from mobile devices to the cloud. , 2013, , .		11
45	Charge replacement in hybrid electrical energy storage systems. , 2012, , .		10
46	Negotiation-based task scheduling and storage control algorithm to minimize user's electric bills under dynamic prices. , 2015, , .		9
47	Profit maximization for utility companies in an oligopolistic energy market with dynamic prices. , 2012, , .		8
48	Service Level Agreement-Based Joint Application Environment Assignment and Resource Allocation in Cloud Computing Systems. , 2013, , .		8
49	Accurate Component Model Based Optimal Control for Energy Storage Systems in Households with Photovoltaic Modules. , 2013, , .		8
50	Single-Source, Single-Destination Charge Migration in Hybrid Electrical Energy Storage Systems. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2014, 22, 2752-2765.	2.1	8
51	Multi-source energy harvesting management and optimization for non-volatile processors. , 2015, , .		8
52	Multi-source in-door energy harvesting for non-volatile processors. , 2016, , .		8
53	Leakage Power Reduction for Deeply-Scaled FinFET Circuits Operating in Multiple Voltage Regimes Using Fine-Grained Gate-Length Biasing Technique. , 2015, , .		8
54	Reinforcement Learning-Based Dynamic Power Management of a Battery-Powered System Supplying Multiple Active Modes. , 2013, , .		7

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55	Coordination of the smart grid and distributed data centers: A nested game-based optimization framework. , 2014, , .		7
56	Optimal energy allocation and storage control for distributed estimation with sensor collaboration. , 2016, , .		7
57	Memristor-Based Discrete Fourier Transform for Improving Performance and Energy Efficiency. , 2016, , .		7
58	Negotiation-based resource provisioning and task scheduling algorithm for cloud systems. , 2016, , .		7
59	An Exploration of Applying Gate-Length-Biasing Techniques to Deeply-Scaled FinFETs Operating in Multiple Voltage Regimes. IEEE Transactions on Emerging Topics in Computing, 2018, 6, 172-183.	3.2	7
60	Modular Spiking Neural Circuits for Mapping Long Short-Term Memory on a Neurosynaptic Processor. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 782-795.	2.7	7
61	An efficient scheduling algorithm for multiple charge migration tasks in hybrid electrical energy storage systems. , 2013, , .		6
62	Negotiation-based task scheduling to minimize userâ€™s electricity bills under dynamic energy prices. , 2014, , .		6
63	Semi-analytical current source modeling of FinFET devices operating in near/sub-threshold regime with independent gate control and considering process variation. , 2014, , .		6
64	Optimal offloading control for a mobile device based on a realistic battery model and semi-Markov decision process. , 2014, , .		6
65	A cross-layer framework for designing and optimizing deeply-scaled FinFET-based SRAM cells under process variations. , 2015, , .		6
66	A New Paradigm for Trading Off Yield, Area and Performance to Enhance Performance per Wafer. , 2013, , .		5
67	A game-theoretic price determination algorithm for utility companies serving a community in smart grid. , 2013, , .		5
68	Resource allocation optimization in a data center with energy storage devices. , 2014, , .		5
69	An energy-aware fault tolerant scheduling framework for soft error resilient cloud computing systems. , 2014, , .		5
70	Standard cell library based layout characterization and power analysis for 10nm gate-all-around (GAA) transistors. , 2016, , .		5
71	System Design for In-Hardware STDP Learning and Spiking Based Probablistic Inference. , 2016, , .		5
72	Maximizing the performance of NoC-based MPSoCs under total power and power density constraints. , 2016, , .		5

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73	State of health aware charge management in hybrid electrical energy storage systems. , 2012, , .		4
74	An optimal control policy in a mobile cloud computing system based on stochastic data. , 2013, , .		4
75	Semi-analytical current source modeling of near-threshold operating logic cells considering process variations. , 2013, , .		4
76	10nm Gate-length junctionless gate-all-around (JL-GAA) FETs based 8T SRAM design under process variation using a cross-layer simulation. , 2015, , .		4
77	Optimizing fuel economy of hybrid electric vehicles using a Markov decision process model. , 2015, , .		4
78	A low-computation-complexity, energy-efficient, and high-performance linear program solver using memristor crossbars. , 2016, , .		4
79	A Fast and Effective Memristor-Based Method for Finding Approximate Eigenvalues and Eigenvectors of Non-negative Matrices. , 2018, , .		4
80	An efficient semi-analytical current source model for FinFET devices in near/sub-threshold regime considering multiple input switching and stack effect. , 2014, , .		3
81	An energy-aware fault tolerant scheduling framework for soft error resilient cloud computing systems. , 2014, , .		3
82	A Joint Optimization Framework for Request Scheduling and Energy Storage Management in a Data Center. , 2015, , .		3
83	Design of high-speed low-power polar BP decoder using emerging technologies. , 2016, , .		3
84	Learning Topics Using Semantic Locality. , 2018, , .		3
85	Power supply and consumption co-optimization of portable embedded systems with hybrid power supply. , 2014, , .		2
86	An electricity trade model for multiple power distribution networks in smart energy systems. , 2014, , .		2
87	State-of-health aware optimal control of plug-in electric vehicles. , 2014, , .		2
88	Reinforcement learning algorithms for dynamic power management. , 2014, , .		2
89	A Cross-Layer Framework for Designing and Optimizing Deeply-Scaled FinFET-Based Cache Memories. Journal of Low Power Electronics and Applications, 2015, 5, 165-182.	1.3	2
90	Design optimization of sense amplifiers using deeply-scaled FinFET devices. , 2015, , .		2

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91	Optimal choice of FinFET devices for energy minimization in deeply-scaled technologies. , 2015, , .		2
92	Algorithm accelerations for luminescent solar concentrator-enhanced reconfigurable onboard photovoltaic system. , 2017, , .		2
93	Hardware Acceleration of Bayesian Neural Networks Using RAM Based Linear Feedback Gaussian Random Number Generators. , 2017, , .		2
94	Hierarchical resource allocation and consolidation framework in a multiâ€core server cluster using a Markov decision process model. IET Cyber-Physical Systems: Theory and Applications, 2017, 2, 118-126.	1.9	2
95	Hierarchical and hybrid energy storage devices in data centers: Architecture, control and provisioning. PLoS ONE, 2018, 13, e0191450.	1.1	2
96	A sequential game perspective and optimization of the smart grid with distributed data centers. , 2013, , .		1
97	Distributed load demand scheduling in smart grid to minimize electricity generation cost. , 2014, , .		1
98	Concurrent placement, capacity provisioning, and request flow control for a distributed cloud infrastructure. , 2014, , .		1
99	Designing the Optimal Pricing Policy for Aggregators in the Smart Grid. , 2014, , .		1
100	Analysis of deeply scaled multi-gate devices with design centering across multiple voltage regimes. , 2015, , .		1
101	Hierarchical Deployment and Control of Energy Storage Devices in Data Centers. , 2015, , .		1
102	Dynamic converter reconfiguration for near-threshold non-volatile processors using in-door energy harvesting. , 2016, , .		1
103	Optimal switch configuration design for reconfigurable photovoltaic modules. , 2014, , .		0
104	Concurrent placement, capacity provisioning, and request flow control for a distributed cloud infrastructure. , 2014, , .		0
105	A cross-layer design framework and comparative analysis of SRAM cells and cache memories using 7nm FinFET devices. , 2014, , .		0
106	Variation-aware joint optimization of the supply voltage and sleep transistor size for the 7nm FinFET technology. , 2014, , .		0
107	A Probability Theory Based Price Determination Framework for Utility Companies in an Oligopolistic Energy Market. , 2014, , .		0
108	A Profit Optimization Framework of Energy Storage Devices in Data Centers: Hierarchical Structure and Hybrid Types. , 2016, , .		0

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109	Towards Budget-Driven Hardware Optimization for Deep Convolutional Neural Networks Using Stochastic Computing. , 2018, , .		0