Arnab Raha

List of Publications by Year
in descending order

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58 papers	1,181 citations	623574 14 h-index	713332 21 g-index
58 all docs	58 docs citations	58 times ranked	998 citing authors

#	Article	IF	Citations
1	Powering the internet of things. , 2014, , .		150
2	QUICKRECALL: A Low Overhead HW/SW Approach for Enabling Computations across Power Cycles in Transiently Powered Computers. , 2014, , .		141
3	Input-Based Dynamic Reconfiguration of Approximate Arithmetic Units for Video Encoding. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 846-857.	2.1	64
4	Energy-efficient system design for IoT devices. , 2016, , .		64
5	Q <scp>uick</scp> R <scp>ecall</scp>. ACM Journal on Emerging Technologies in Computing Systems, 2015, 12, 1-19.	1.8	56
6	Quality Configurable Approximate DRAM. IEEE Transactions on Computers, 2017, 66, 1172-1187.	2.4	53
7	Energy-Efficient IoT-Health Monitoring System using Approximate Computing. Internet of Things (Netherlands), 2020, 9, 100166.	4.9	50
8	D-PUF. , 2016, , .		43
9	Energy-Aware Memory Mapping for Hybrid FRAM-SRAM MCUs in Intermittently-Powered IoT Devices. Transactions on Embedded Computing Systems, 2017, 16, 1-23.	2.1	36
10	Towards Full-System Energy-Accuracy Tradeoffs. , 2017, , .		36
11	Toward Functional Safety of Systolic Array-Based Deep Learning Hardware Accelerators. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, 29, 485-498.	2.1	33
12	Quality-aware data allocation in approximate DRAM. , 2015, , .		27
13	Approximating Beyond the Processor: Exploring Full-System Energy-Accuracy Tradeoffs in a Smart Camera System. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 2884-2897.	2.1	27
14	Energy-Aware Memory Mapping for Hybrid FRAM-SRAM MCUs in IoT Edge Devices. , 2016, , .		25
15	D-PUF. Transactions on Embedded Computing Systems, 2018, 17, 1-31.	2.1	25
16	<scp>q</scp> LUT. Transactions on Embedded Computing Systems, 2017, 16, 1-23.	2.1	23
17	ASLAN: Synthesis of approximate sequential circuits. , 2014, , .		22
18	Approximate memory compression for energy-efficiency. , 2017, , .		21

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19	Energy-Efficient Reduce-and-Rank Using Input-Adaptive Approximations. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2017, 25, 462-475.	2.1	20
20	A Direct Trust dependent Link State Routing Protocol Using Route Trusts for WSNs (DTLSRP). Wireless Sensor Network, 2011, 03, 125-134.	0.3	20
21	Quality Configurable Reduce-and-Rank for Energy Efficient Approximate Computing. , 2015, , .		19
22	Designing Energy-Efficient Intermittently Powered Systems Using Spin-Hall-Effect-Based Nonvolatile SRAM. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 294-307.	2.1	18
23	Memory-Based Combination PUFs for Device Authentication in Embedded Systems. IEEE Transactions on Multi-Scale Computing Systems, 2018, 4, 793-810.	2.5	18
24	ASLAN: Synthesis of approximate sequential circuits. , 2014, , .		18
25	Geometric mean based trust management system for WSNs (GMTMS). , 2011, , .		16
26	Embedding Approximate Nonlinear Model Predictive Control at Ultrahigh Speed and Extremely Low Power. IEEE Transactions on Control Systems Technology, 2020, 28, 1092-1099.	3.2	16
27	Hypnos. , 2014, , .		15
28	A Power Efficient Video Encoder Using Reconfigurable Approximate Arithmetic Units. , 2014, , .		15
29	Trust integrated link state routing protocol for Wireless Sensor Networks (TILSRP). , 2011, , .		12
30	Approximate Memory Compression. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2020, 28, 980-991.	2.1	11
31	Approximate inference systems (AxIS). , 2020, , .		10
32	Design Considerations for Edge Neural Network Accelerators: An Industry Perspective. , 2021, , .		9
33	An optimal sensor deployment scheme to ensure multi level coverage and connectivity in wireless sensor networks. , 2012, , .		8
34	Synergistic Approximation of Computation and Memory Subsystems for Error-Resilient Applications. IEEE Embedded Systems Letters, 2017, 9, 21-24.	1.3	8
35	Valley-Coupled-Spintronic Non-Volatile Memories With Compute-In-Memory Support. IEEE Nanotechnology Magazine, 2020, 19, 635-647.	1.1	7
36	Fuzzy Logic Election of Node for Routing in WSNs. , 2012, , .		6

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37	A fuzzy based trustworthy route selection method using LSRP in wireless sensor networks (FTRSP). , 2012, , .		4
38	Non-volatile Logic and Memory based on Reconfigurable Ferroelectric Transistors. , 2019, , .		4
39	Exploring the Design of Energy-Efficient Intermittently Powered Systems Using Reconfigurable Ferroelectric Transistors. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2022, 30, 365-378.	2.1	4
40	Special Session: Approximate TinyML Systems: Full System Approximations for Extreme Energy-Efficiency in Intelligent Edge Devices. , 2021, , .		4
41	A Novel Indirect Trust Based Link State Routing Scheme Using a Robust Route Trust Method for Wireless Sensor Networks. , 2012, , .		3
42	Energy-Efficient Edge Detection using Approximate Ramanujan Sums. , 2020, , .		3
43	Improving Network Throughput by Hardware Realization of a Dynamic Content Caching Scheme for Information-Centric Networking (ICN). Wireless Personal Communications, 2021, 116, 2873-2898.	1.8	3
44	IPS-CiM: Enhancing Energy Efficiency of Intermittently-Powered Systems with Compute-in-Memory. , 2020, , .		3
45	Sleep-Mode Voltage Scaling. Transactions on Embedded Computing Systems, 2016, 16, 1-25.	2.1	2
46	Ultrafast embedded explicit model predictive control for nonlinear systems. , 2017, , .		2
47	A Real Time Multivariate Robust Regression Based Flood Prediction Model Using Polynomial Approximation for Wireless Sensor Network Based Flood Forecasting Systems. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2012, , 432-441.	0.2	2
48	An efficient sleep protocol for lifetime enhancement in multi covered and multi connected WSNs. , 2012, , .		1
49	VIDalizer: An energy efficient video streamer. , 2015, , .		1
50	HIPER: Low Power, High Performance and Area-Efficient Hardware Accelerators for Hidden Periodicity Detection using Ramanujan Filter Banks. , 2021, , .		1
51	PreSyNC: Hardware realization of the Presynaptic Region of a Biologically Extensive Neuronal Circuitry. , 2021, , .		1
52	SyNC, a Computationally Extensive and Realistic Neural Net to Identify Relative Impacts of Synaptopathy Mechanisms on Glutamatergic Neurons and Their Networks in Autism and Complex Neurological Disorders. Frontiers in Cellular Neuroscience, 2021, 15, 674030.	1.8	1
53	A Low Complexity Multivariate Regression Based Flood Forecasting Model Using an Optimized WSN Deployment Scheme. Advanced Materials Research, 0, 403-408, 3484-3494.	0.3	0
54	HelloMsgC: A Practical Implementation of Hello Message Protocol in Wireless Sensor Network. Procedia Technology, 2013, 10, 546-553.	1.1	0

#	Article	IF	Citations
55	Approximate Systems: Synergistically Approximating Sensing, Computing, Memory, and Communication Subsystems for Energy Efficiency. , 2019, , 349-368.		0
56	ENROUTE: An Entropy Aware Routing Scheme for Information-Centric Networks (ICN). Wireless Personal Communications, 2022, 122, 1171-1195.	1.8	0
57	Analysis and Mitigation of DRAM Faults in Sparse-DNN Accelerators. IEEE Design and Test, 2023, 40, 90-99.	1.1	0
58	Special Session: Effective In-field Testing of Deep Neural Network Hardware Accelerators. , 2022, , .		0