Ibrahim Abe M Elfadel

List of Publications by Year
in descending order

82 papers	954 citations	777949 13 h-index	620720 26 g-index
87 all docs	87 docs citations	87 times ranked	742 citing authors

#	Article	IF	Citations
1	FPGAaaS: A Survey of Infrastructures and Systems. IEEE Transactions on Services Computing, 2022, 15, 1143-1156.	3.2	5
2	Unsupervised Land-Cover Segmentation Using Accelerated Balanced Deep Embedded Clustering. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	5
3	Edge-Coded Signaling Techniques. , 2022, , 7-36.		1
4	Cryptomining Detection in Container Clouds Using System Calls and Explainable Machine Learning. IEEE Transactions on Parallel and Distributed Systems, 2021, 32, 674-691.	4.0	46
5	Dynamic Edge-coded Protocols for Low-power, Device-to-device Communication. ACM Transactions on Sensor Networks, 2021, 17, 1-24.	2.3	4
6	Lightweight, Single-Clock-Cycle, Multilayer Cipher for Single-Channel IoT Communication: Design and Implementation. IEEE Access, 2021, 9, 66723-66737.	2.6	1
7	Convergent Time-Stepping Schemes for Analog ReLU Networks. , 2021, , .		1
8	Hardware Acceleration of EEG-Based Emotion Classification Systems: A Comprehensive Survey. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 412-442.	2.7	12
9	Learning Without Forgetting: A New Framework for Network Cyber Security Threat Detection. IEEE Access, 2021, 9, 137042-137062.	2.6	7
10	On the Stability of Analog ReLU Networks. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 2426-2430.	1.9	7
11	Characterization of a Resonant Lorentz Force MEMS Magnetometer. , 2020, , .		1
12	BioCNN: A Hardware Inference Engine for EEG-Based Emotion Detection. IEEE Access, 2020, 8, 140896-140914.	2.6	28
13	Self-Synchronized, Continuous Body Weight Monitoring Using Flexible Force Sensors and Ground Reaction Force Signal Processing. IEEE Sensors Journal, 2020, 20, 10886-10897.	2.4	9
14	Shoe-Integrated, Force Sensor Design for Continuous Body Weight Monitoring. Sensors, 2020, 20, 3339.	2.1	6
15	MEMS multi-vibrating ring gyroscope for space applications. Microsystem Technologies, 2020, 26, 2527-2533.	1.2	16
16	Sensor Design Migration: The Case of a VRG. IEEE Sensors Journal, 2019, 19, 10336-10346.	2.4	6
17	Towards a Semi-analytical Model of a Tapered Piezoelectric Energy Harvester with an Arbitrary Proofmass. , 2019, , .		0
18	Modeling and Analysis of a Navigational, Lorentz-Force, Z-axis MEMS Magnetometer in a Standard Process. , 2019, , .		2

#	Article	IF	Citations
19	Criteria for Learning without Forgetting in Artificial Neural Networks. , 2019, , .		4
20	Editorial for the Special Issue on MEMS Accelerometers. Micromachines, 2019, 10, 290.	1.4	2
21	A Domain-Specific Processor Microarchitecture for Energy-Efficient, Dynamic IoT Communication. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2019, 27, 2074-2087.	2.1	3
22	A Reconfigurable DLL-Based Digital-to-Time Converter Using Charge Pump Current Interpolation and Digital Predistortion Linearization. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 763-767.	2.2	3
23	Domain-Specific Architecture for IMU Array Data Fusion. , 2019, , .		3
24	Dynamic Autoselection and Autotuning of Machine Learning Models for Cloud Network Analytics. IEEE Transactions on Parallel and Distributed Systems, 2019, 30, 1052-1064.	4.0	15
25	Time-Delay Array Beamforming for Millimeter-Wave IoT Systems. , 2019, , 153-168.		0
26	Low-Power, Dynamic-Data-Rate Protocol for IoT Communication. , 2019, , 193-231.		0
27	Pulsed Decimal Encoding for IoT Single-Channel Dynamic Signaling. IFIP Advances in Information and Communication Technology, 2019, , 112-132.	0.5	0
28	Multicore Power and Thermal Proxies Using Least-Angle Regression. , 2019, , 571-608.		0
29	An Instruction Set Architecture for Low-power, Dynamic IoT Communication. , 2018, , .		3
30	Monolithic Multi Degree of Freedom (MDoF) Capacitive MEMS Accelerometers. Micromachines, 2018, 9, 602.	1.4	49
31	High dynamic range Z-axis hybrid spring MEMS capacitive accelerometer. , 2018, , .		4
32	A multiband RF MEMS switch with low insertion loss and CMOS-compatible pull-in voltage. , 2018, , .		2
33	On the modelling and placement of bonding-pillar holes in multi-wafer, vacuum-packaged MEMS. , 2018, , .		1
34	Variation-aware modelling of micro-scale piezoelectric energy harvesters. , 2018, , .		1
35	MEMS gyroscope for miniaturized space attitude control system. , 2018, , .		3
36	Electromechanical Model of a Tapered Piezoelectric Energy Harvester. IEEE Sensors Journal, 2018, 18, 5853-5862.	2.4	11

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37	Corrected squeezed-film damping simulation validated with a lorentz-force magnetometer operating in vacuum. , 2017, , .		2
38	Numerical modeling and validation of squeezed-film damping in vacuum-packaged industrial MEMS. Journal of Micromechanics and Microengineering, 2017, 27, 075016.	1.5	8
39	A novel approach to the analysis of squeezed-film air damping in microelectromechanical systems. Journal of Micromechanics and Microengineering, 2017, 27, 015012.	1.5	15
40	A novel squeezed-film damping model for MEMS comb structures. , 2017, , .		2
41	Large-Scale 3D Chips: Challenges and Solutions for Design Automation, Testing, and Trustworthy Integration. IPSJ Transactions on System LSI Design Methodology, 2017, 10, 45-62.	0.5	35
42	Single-clock-cycle, multilayer encryption algorithm for single-channel IoT communications. , 2017, , .		5
43	A pulsed decimal technique for single-channel, dynamic signaling for IoT applications. , 2017, , .		8
44	Automatic protocol configuration in single-channel low-power dynamic signaling for IoT devices. , 2016, , .		8
45	Impact of fractional bandwidth on the bit error rate of a beamforming system. , 2016, , .		2
46	Multi-electrode piezoelectric energy harvesters. , 2016, , .		3
47	Autoscaling of cores in multicore processors using power and thermal workload signatures. , 2016, , .		1
48	A versatile hardware platform for the development and characterization of IoT sensor networks. , 2016, , .		8
49	A preliminary evaluation of continuous, shoe-integrated weight measurements for heart failure patients. , 2016, 2016, 4768-4771.		6
50	Analysis of squeeze film air damping in MEMS with lattice Boltzmann method. , 2016, , .		1
51	Invited - Ultra low power integrated transceivers for near-field IoT. , 2016, , .		4
52	Compact Model Parameter Extraction Using Bayesian Inference, Incomplete New Measurements, and Optimal Bias Selection. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 1138-1150.	1.9	4
53	Integrating 3D Floorplanning and Optimization of Thermal Through-Silicon Vias. , 2016, , 195-209.		0
54	A Pulsed-Index Technique for Single-Channel, Low-Power, Dynamic Signaling. , 2015, , .		17

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55	Lattice Boltzmann Simulation of Rarefied Gas Flow Along Moving Rigid Objects in Micro-Cavities. , 2015, , .		1
56	Statistical Library Characterization using Belief Propagation across Multiple Technology Nodes. , 2015, , .		7
57	Compact modeling of microbatteries using behavioral linearization and model-order reduction. , 2015, , .		1
58	Extraction of thermal workload signatures in multicore processors using least angle regression. , 2015, , .		1
59	FPGA methodology for power analysis of embedded adaptive beamforming. , 2015, , .		0
60	Multicore power proxies using least-angle regression. , 2015, , .		2
61	Power management of pulsed-index communication protocols. , 2015, , .		9
62	Timing and robustness analysis of Pulsed-Index protocols for single-channel IoT communications. , 2015, , .		9
63	Calculation of Generalized Polynomial-Chaos Basis Functions and Gauss Quadrature Rules in Hierarchical Uncertainty Quantification. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 728-740.	1.9	29
64	Stochastic testing simulator for integrated circuits and MEMS: Hierarchical and sparse techniques. , 2014, , .		19
65	Thermal-driven 3D floorplanning using localized TSV placement. , 2014, , .		9
66	Unified, ultra compact, quadratic power proxies for multi-core processors. , 2014, , .		1
67	Efficient performance estimation with very small sample size via physical subspace projection and maximum a posteriori estimation. , 2014, , .		0
68	Uncertainty quantification for integrated circuits: Stochastic spectral methods. , 2013, , .		9
69	Stochastic Testing Method for Transistor-Level Uncertainty Quantification Based on Generalized Polynomial Chaos. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 1533-1545.	1.9	152
70	Efficient Uncertainty Quantification for the Periodic Steady State of Forced and Autonomous Circuits. IEEE Transactions on Circuits and Systems II: Express Briefs, 2013, 60, 687-691.	2.2	17
71	Integration of thermal management and floorplanning based on three-dimensional layout representations. , 2013, , .		2
72	A simplified computational model for solid-state lithium microbatteries. , 2013, , .		4

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73	An ultra-compact virtual source FET model for deeply-scaled devices: Parameter extraction and validation for standard cell libraries and digital circuits. , 2013, , .		0
74	Model order reduction of fully parameterized systems by recursive least square optimization. , 2011, , .		4
75	A Markov Chain Based Hierarchical Algorithm for Fabric-Aware Capacitance Extraction. IEEE Transactions on Advanced Packaging, 2010, 33, 818-827.	1.7	20
76	Convergence of Transverse Waveform Relaxation for the Electrical Analysis of Very Wide Transmission Line Buses. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2009, 28, 1150-1161.	1.9	11
77	A capacitance solver for incremental variation-aware extraction. , 2008, , .		28
78	A coordinate-transformed Arnoldi algorithm for generating guaranteed stable reduced-order models of RLC circuits. Computer Methods in Applied Mechanics and Engineering, 1999, 169, 377-389.	3.4	84
79	Gibbs random fields, cooccurrences, and texture modeling. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1994, 16, 24-37.	9.7	102
80	Mean-field phase transitions and correlation functions for Gibbs random fields. Journal of Mathematical Imaging and Vision, 1993, 3, 167-186.	0.8	6
81	Structure of aura and co-occurrence matrices for the Gibbs texture model. Journal of Mathematical Imaging and Vision, 1992, 2, 5-25.	0.8	30
82	<title>Miscibility matrices explain the behavior of gray-scale textures generated by Gibbs random fields</title>. , 1991, 1381, 524.		4