

# Tarek M Taha

## List of Publications by Year in descending order

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91  
papers

3,782  
citations

516215

16  
h-index

476904

29  
g-index

91  
all docs

91  
docs citations

91  
times ranked

3375  
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards Improved Inertial Navigation by Reducing Errors Using Deep Learning Methodology. Applied Sciences (Switzerland), 2022, 12, 3645.	1.3	3
2	Microscopic nuclei classification, segmentation, and detection with improved deep convolutional neural networks (DCNN). Diagnostic Pathology, 2022, 17, 38.	0.9	4
3	Parallelized path-based search for constraint satisfaction in autonomous cognitive agents. Journal of Supercomputing, 2021, 77, 1667-1692.	2.4	2
4	Inception recurrent convolutional neural network for object recognition. Machine Vision and Applications, 2021, 32, 1.	1.7	23
5	Memristor Model Optimization Based on Parameter Extraction From Device Characterization Data. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 1084-1095.	1.9	19
6	Improved inception-residual convolutional neural network for object recognition. Neural Computing and Applications, 2020, 32, 279-293.	3.2	81
7	3D Memristor Crossbar Architecture for a Multicore Neuromorphic System. , 2020, , .		6
8	Leveraging the Manycore Architecture of the Loihi Spiking Processor to Perform Quasi-Complete Constraint Satisfaction. , 2020, , .		1
9	Solving Constraint Satisfaction Problems Using the Loihi Spiking Neuromorphic Processor. , 2020, , .		15
10	Cognitive Domain Ontologies. , 2020, , .		1
11	Memristor Based Autoencoder for Unsupervised Real-Time Network Intrusion and Anomaly Detection. , 2019, , .		9
12	Design Space Evaluation of a Memristor Crossbar Based Multilayer Perceptron for Image Processing. , 2019, , .		1
13	High Speed Cognitive Domain Ontologies for Asset Allocation Using Loihi Spiking Neurons. , 2019, , .		9
14	A State-of-the-Art Survey on Deep Learning Theory and Architectures. Electronics (Switzerland), 2019, 8, 292.	1.8	954
15	Breast Cancer Classification from Histopathological Images with Inception Recurrent Residual Convolutional Neural Network. Journal of Digital Imaging, 2019, 32, 605-617.	1.6	207
16	High Speed Approximate Cognitive Domain Ontologies for Constrained Asset Allocation based on Spiking Neurons. , 2019, , .		2
17	Analysis of Lithium Niobate Memristor Devices for Neuromorphic Programability. , 2019, , .		2
18	Medical Image Denoising with Recurrent Residual U-Net (R2U-Net) base Auto-Encoder. , 2019, , .		20

#	ARTICLE	IF	CITATIONS
19	Ex-situ training of large memristor crossbars for neural network applications. Analog Integrated Circuits and Signal Processing, 2019, 99, 1-10.	0.9	11
20	Recurrent residual U-Net for medical image segmentation. Journal of Medical Imaging, 2019, 6, 1.	0.8	449
21	Flexible memristor based neuromorphic system for implementing multi-layer neural network algorithms. International Journal of Parallel, Emergent and Distributed Systems, 2018, 33, 408-429.	0.7	23
22	Filament formation in lithium niobate memristors supports neuromorphic programming capability. Neural Computing and Applications, 2018, 30, 3773-3779.	3.2	15
23	Task Allocation Performance Comparison for Low Power Devices. , 2018, , .		6
24	Accelerating Inference In Long Short-Term Memory Neural Networks. , 2018, , .		6
25	Socrates-D 2.0: A Low Power High Throughput Architecture for Deep Network Training. , 2018, , .		0
26	Deep Versus Wide Convolutional Neural Networks for Object Recognition on Neuromorphic System. , 2018, , .		17
27	Microscopic Blood Cell Classification Using Inception Recurrent Residual Convolutional Neural Networks. , 2018, , .		30
28	Experimental Study of Memristors for use in Neuromorphic Computing. , 2018, , .		4
29	High Speed Approximate Cognitive Domain Ontologies for Asset Allocation based on Isolated Spiking Neurons. , 2018, , .		6
30	Nuclei Segmentation with Recurrent Residual Convolutional Neural Networks based U-Net (R2U-Net). , 2018, , .		475
31	Efficient Memristor-Based Architecture for Intrusion Detection and High-Speed Packet Classification. ACM Journal on Emerging Technologies in Computing Systems, 2018, 14, 1-27.	1.8	7
32	Effective Quantization Approaches for Recurrent Neural Networks. , 2018, , .		22
33	Low Power Memristor Crossbar Based Winner Takes All Circuit. , 2018, , .		3
34	Handwritten Bangla Character Recognition Using the State-of-the-Art Deep Convolutional Neural Networks. Computational Intelligence and Neuroscience, 2018, 2018, 1-13.	1.1	67
35	Experimental study of LiNbO3 memristors for use in neuromorphic computing. Microelectronic Engineering, 2017, 168, 37-40.	1.1	34
36	Cognitive Domain Ontologies in lookup tables stored in a memristor string matching architecture. , 2017, , .		6

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37	On-chip training of memristor crossbar based multi-layer neural networks. <i>Microelectronics Journal</i> , 2017, 66, 31-40.	1.1	72
38	A fast training method for memristor crossbar based multi-layer neural networks. <i>Analog Integrated Circuits and Signal Processing</i> , 2017, 93, 443-454.	0.9	22
39	Extremely parallel memristor crossbar architecture for convolutional neural network implementation. , 2017, , .		62
40	Object recognition using cellular simultaneous recurrent networks and convolutional neural network. , 2017, , .		12
41	Convolutional sparse coding on neurosynaptic cognitive system. , 2017, , .		2
42	On-chip training of memristor based deep neural networks. , 2017, , .		33
43	Methods for high resolution programming in lithium niobate memristors for neuromorphic hardware. , 2017, , .		3
44	Network intrusion detection for cyber security on neuromorphic computing system. , 2017, , .		28
45	Cognitive domain ontologies in a memristor crossbar architecture. , 2017, , .		6
46	Quadratic Unconstrained Binary Optimization (QUBO) on neuromorphic computing system. , 2017, , .		18
47	Multilayer perceptron algorithms for cyberattack detection. , 2016, , .		6
48	Memristor devices for use in neuromorphic systems. , 2016, , .		4
49	High throughput neural network based embedded streaming multicore processors. , 2016, , .		10
50	Memristor crossbar deep network implementation based on a Convolutional neural network. , 2016, , .		74
51	Parallelized mining of domain knowledge on GPGPU and Xeon Phi clusters. <i>Journal of Supercomputing</i> , 2016, 72, 2132-2156.	2.4	5
52	Intrusion detection using deep belief networks. , 2015, , .		144
53	SPICE analysis of dense memristor crossbars for low power neuromorphic processor designs. , 2015, , .		12
54	Methods for reducing memristor crossbar simulation time. , 2015, , .		10

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55	Ex-situ programming in a neuromorphic memristor based crossbar circuit. , 2015, , .		6
56	Impact of memristor switching noise in a neuromorphic crossbar. , 2015, , .		8
57	Lithium based memristive device. , 2015, , .		9
58	Memristor crossbar based unsupervised training. , 2015, , .		2
59	Intrusion Detection Using Deep Belief Network and Extreme Learning Machine. International Journal of Monitoring and Surveillance Technologies Research, 2015, 3, 35-56.	0.3	19
60	State Preserving Extreme Learning Machine for face recognition. , 2015, , .		11
61	Ex-situ training of dense memristor crossbar for neuromorphic applications. , 2015, , .		21
62	Memristor crossbar based multicore neuromorphic processors. , 2014, , .		36
63	Tolerance to defective memristors in a neuromorphic learning circuit. , 2014, , .		9
64	Hybrid crossbar architecture for a memristor based memory. , 2014, , .		20
65	Power efficient architecture for network intrusion detection system. , 2014, , .		5
66	Fabrication, characterization, and modeling of memristor devices. , 2014, , .		7
67	FPGA design of a multicore neuromorphic processing system. , 2014, , .		2
68	Efficacy of memristive crossbars for neuromorphic processors. , 2014, , .		17
69	A communication reduction approach to iteratively solve large sparse linear systems on a GPGPU cluster. Cluster Computing, 2014, 17, 327-337.	3.5	7
70	Memristor Crossbar Based Programmable Interconnects. , 2014, , .		2
71	On-chip static vs. dynamic routing for feed forward neural networks on multicore neuromorphic architectures. , 2013, , .		1
72	Exploring the design space of specialized multicore neural processors. , 2013, , .		42

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73	Hardware Accelerated Cognitively Enhanced Complex Event Processing Architecture. , 2013, , .		12
74	Memristor SPICE model and crossbar simulation based on devices with nanosecond switching time. , 2013, , .		69
75	Memristor SPICE Modeling. , 2012, , 211-244.		37
76	GPGPU acceleration of a novel calibration method for industrial robots. , 2011, , .		5
77	TiO <sub>2</sub> memristor devices. , 2011, , .		4
78	A Memristor Device Model. IEEE Electron Device Letters, 2011, 32, 1436-1438.	2.2	247
79	Memristor-based pattern recognition for image processing: an adaptive coded aperture imaging and sensing opportunity. Proceedings of SPIE, 2010, , .	0.8	7
80	Neuromorphic models on a GPGPU cluster. , 2010, , .		9
81	Parallelizing two classes of neuromorphic models on the Cell multicore architecture. , 2009, , .		6
82	Scaling analysis of a neocortex inspired cognitive model on the Cray XD1. Journal of Supercomputing, 2009, 47, 21-43.	2.4	17
83	Fast implementation of matched-filter-based automatic alignment image processing. Optics and Laser Technology, 2009, 41, 193-197.	2.2	19
84	Hardware accelerated optical alignment of lasers using beam-specific matched filters. Applied Optics, 2009, 48, 5190.	2.1	8
85	Character recognition with two spiking neural network models on multicore architectures. , 2009, , .		14
86	Multicore cluster implementations of hierarchical Bayesian cortical models. , 2009, , .		0
87	Hardware acceleration of image recognition through a visual cortex model. Optics and Laser Technology, 2008, 40, 795-802.	2.2	9
88	An Instruction Throughput Model of Superscalar Processors. IEEE Transactions on Computers, 2008, 57, 389-403.	2.4	23
89	A neocortex model implementation on reconfigurable logic with streaming memory. Parallel and Distributed Processing Symposium (IPDPS), Proceedings of the International Conference on, 2008, , .	1.0	3
90	Higher accuracy template for corner cube reflected image. Proceedings of SPIE, 2008, , .	0.8	2

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91	A preliminary investigation of a neocortex model implementation on the Cray XD1. , 2007, , .		4