Hyongsuk Kim

List of Publications by Year
in descending order

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133	4,231	185998	118652
papers	citations	28 h-index	62 g-index

136	136	136	2650
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Three Fingerprints of Memristor. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 3008-3021.	3.5	473
2	Memristor Emulator for Memristor Circuit Applications. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 2422-2431.	3.5	326
3	Memristor Bridge Synapse-Based Neural Network and Its Learning. IEEE Transactions on Neural Networks and Learning Systems, 2012, 23, 1426-1435.	7.2	312
4	Neural Synaptic Weighting With a Pulse-Based Memristor Circuit. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 148-158.	3.5	307
5	Memristor Bridge Synapses. Proceedings of the IEEE, 2012, 100, 2061-2070.	16.4	229
6	HODGKINâ€“HUXLEY AXON IS MADE OF MEMRISTORS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1230011.	0.7	226
7	ER Stress-Mediated Signaling: Action Potential and Ca2+ as Key Players. International Journal of Molecular Sciences, 2016, 17, 1558.	1.8	170
8	Brains Are Made of Memristors. IEEE Circuits and Systems Magazine, 2014, 14, 12-36.	2.6	135
9	A Circuit-Based Learning Architecture for Multilayer Neural Networks With Memristor Bridge Synapses. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 215-223.	3.5	129
10	NEURONS ARE POISED NEAR THE EDGE OF CHAOS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250098.	0.7	121
11	Guided Soft Attention Network for Classification of Breast Cancer Histopathology Images. IEEE Transactions on Medical Imaging, 2020, 39, 1306-1315.	5.4	102
12	Osteoporosis detection in panoramic radiographs using a deep convolutional neural network-based computer-assisted diagnosis system: a preliminary study. Dentomaxillofacial Radiology, 2019, 48, 20170344.	1.3	90
13	Memristor-based multilevel memory. , 2010, , .		86
14	A Voltage Mode Memristor Bridge Synaptic Circuit with Memristor Emulators. Sensors, 2012, 12, 3587-3604.	2.1	71
15	A Generic Model of Memristors With Parasitic Components. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 891-898.	3.5	70
16	Seam-line determination for image mosaicking: A technique minimizing the maximum local mismatch and the global cost. ISPRS Journal of Photogrammetry and Remote Sensing, 2010, 65, 86-92.	4.9	66
17	Composite Behavior of Multiple Memristor Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 2688-2700.	3.5	61
18	Chua Corsage Memristor Oscillator via Hopf Bifurcation. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2016, 26, 1630009.	0.7	60

#	Article	IF	Citations
19	CED-Net: Crops and Weeds Segmentation for Smart Farming Using a Small Cascaded Encoder-Decoder Architecture. Electronics (Switzerland), 2020, 9, 1602.	1.8	58
20	A memristor emulator as a replacement of a real memristor. Semiconductor Science and Technology, 2015, 30, 015007.	1.0	52
21	Charge Controlled Meminductor Emulator. Journal of Semiconductor Technology and Science, 2014, 14, 750-754.	0.1	47
22	Learning Semantic Graphics Using Convolutional Encoderâ€“Decoder Network for Autonomous Weeding in Paddy. Frontiers in Plant Science, 2019, 10, 1404.	1.7	45
23	Mutator-Based Meminductor Emulator for Circuit Applications. Circuits, Systems, and Signal Processing, 2014, 33, 2363-2383.	1.2	44
24	Deep Neural Network-Based System for Autonomous Navigation in Paddy Field. IEEE Access, 2020, 8, 71272-71278.	2.6	44
25	Chua Corsage Memristor: Phase Portraits, Basin of Attraction, and Coexisting Pinched Hysteresis Loops. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2017, 27, 1730011.	0.7	43
26	Memristive Imitation of Synaptic Transmission and Plasticity. IEEE Transactions on Neural Networks and Learning Systems, 2019, 30, 3458-3470.	7.2	41
27	Microtubules as Sub-Cellular Memristors. Scientific Reports, 2020, 10, 2108.	1.6	35
28	Oscillation with 4-Lobe Chua Corsage Memristor. IEEE Circuits and Systems Magazine, 2018, 18, 14-27.	2.6	33
29	Hybrid no-propagation learning for multilayer neural networks. Neurocomputing, 2018, 321, 28-35.	3.5	29
30	Packet Loss Rate Prediction Using the Sparse Basis Prediction Model. IEEE Transactions on Neural Networks, 2007, 18, 950-954.	4.8	28
31	Oscillator Made of Only One Memristor and One Battery. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2015, 25, 1530010.	0.7	27
32	EXPANDABLE CIRCUITS OF MUTATOR-BASED MEMCAPACITOR EMULATOR. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2013, 23, 1330017.	0.7	26
33	TSFD-Net: Tissue specific feature distillation network for nuclei segmentation and classification. Neural Networks, 2022, 151, 1-15.	3.3	24
34	Comparative study of Matrix exponential and Taylor series discretization methods for nonlinear ODEs. Simulation Modelling Practice and Theory, 2009, 17, 471-484.	2.2	23
35	Optimal path finding with space- and time-variant metric weights via multi-layer CNN. International Journal of Circuit Theory and Applications, 2002, 30, 247-270.	1.3	22
36	A mutator-based meminductor emulator circuit. , 2014, , .		22

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37	SEEK: A Framework of Superpixel Learning with CNN Features for Unsupervised Segmentation. Electronics (Switzerland), 2020, 9, 383.	1.8	22
38	Global dynamics of Chua Corsage Memristor circuit family: fixed-point loci, Hopf bifurcation, and coexisting dynamic attractors. Nonlinear Dynamics, 2020, 99, 3169-3196.	2.7	22
39	Building cellular neural network templates with a hardware friendly learning algorithm. Neurocomputing, 2018, 312, 276-284.	3.5	21
40	Transient Behaviors of Multiple Memristor Circuits Based on Flux Charge Relationship. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2014, 24, 1430006.	0.7	20
41	Multi-Scale Context Aggregation for Strawberry Fruit Recognition and Disease Phenotyping. IEEE Access, 2021, 9, 124491-124504.	2.6	20
42	BINARY CHAOS SYNCHRONIZATION IN ELEMENTARY CELLULAR AUTOMATA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2009, 19, 2871-2884.	0.7	19
43	A Circuit-Based Neural Network with Hybrid Learning of Backpropagation and Random Weight Change Algorithms. Sensors, 2017, 17, 16.	2.1	19
44	Third-Order Memristive Morrisâ€“Lecar Model of Barnacle Muscle Fiber. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2017, 27, 1730015.	0.7	18
45	DAM: Hierarchical Adaptive Feature Selection Using Convolution Encoder Decoder Network for Strawberry Segmentation. Frontiers in Plant Science, 2021, 12, 591333.	1.7	18
46	Memistor Is Not Memristor [Express Letters]. IEEE Circuits and Systems Magazine, 2012, 12, 75-78.	2.6	16
47	Memristive Model of the Barnacle Giant Muscle Fibers. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2016, 26, 1630001.	0.7	16
48	Exact Analysis and Physical Realization of the 6-Lobe Chua Corsage Memristor. Complexity, 2018, 2018, 1-21.	0.9	16
49	PMED-Net: Pyramid Based Multi-Scale Encoder-Decoder Network for Medical Image Segmentation. IEEE Access, 2021, 9, 55988-55998.	2.6	16
50	High-performance Viterbi decoder with circularly connected 2-D CNN unilateral cell array. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2005, 52, 2208-2218.	0.1	15
51	Morris-Lecar model of third-order barnacle muscle fiber is made of volatile memristors. Science China Information Sciences, 2018, 61, 1.	2.7	14
52	Accurate Natural Trail Detection Using a Combination of a Deep Neural Network and Dynamic Programming. Sensors, 2018, 18, 178.	2.1	13
53	Chaotic Scan: A Low Complexity Video Transmission System for Efficiently Sending Relevant Image Features. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 317-321.	5.6	12
54	Why Are Memristor and Memistor Different Devices?. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 2611-2618.	3.5	12

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55	Nonlinear Dynamics, Switching Kinetics and Physical Realization of the Family of Chua Corsage Memristors. Electronics (Switzerland), 2020, 9, 369.	1.8	11
56	HIGHLY ACCURATE DOUBLET GENERATOR FOR MEMRISTOR-BASED ANALOG MEMORY. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250153.	0.7	10
57	On Learning With Nonlinear Memristor-Based Neural Network and its Replication. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 3906-3916.	3.5	10
58	Analog addition/subtraction on the cnn-um chip with short-time superimposition of input signals. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 429-432.	0.1	9
59	Memristor circuit for artificial synaptic weighting of pulse inputs. , 2012, , .		9
60	Implementation of Neuro-Memristive Synapse for Long-and Short-Term Bio-Synaptic Plasticity. Sensors, 2021, 21, 644.	2.1	9
61	Memristor bridge circuit for neural synaptic weighting. , 2012, , .		9
62	Keypoints Derivation for Object Class Detection with SIFT Algorithm. Lecture Notes in Computer Science, 2006, , 850-859.	1.0	8
63	Automatic detection and tracking of moving image target with CNN-UM via target probability fusion of multiple features. International Journal of Circuit Theory and Applications, 2003, 31, 329-346.	1.3	7
64	Excitatory and inhibitory actions of a memristor bridge synapse. Science China Information Sciences, 2018, 61, 1.	2.7	7
65	Three Fingerprints of Memristor. , 2019, , 165-196.		7
66	Road Boundary Detection Based on the Dynamic Programming and the Randomized Hough Transform. , 2007, , .		6
67	Contour Tracking Using Centroid Distance Signature and Dynamic Programming Method. , 2009, , .		6
68	Design of a Low-Frequency Oscillator with PTC Memristor and an Inductor. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2016, 26, 1630021.	0.7	6
69	Why Are Memristor and Memistor Different Devices?. , 2014, , 95-112.		6
70	Lane departure identification on highway with searching the region of interest on hough space. , 2007, , .		5
71	Textures in magnetic resonance images of the ischemic rat brain treated with an anti-inflammatory agent. Clinical Imaging, 2010, 34, 7-13.	0.8	5
72	Implementation of a Synchronized Oscillator Circuit for Fast Sensing and Labeling of Image Objects. Sensors, 2011, 11, 3401-3417.	2.1	5

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73	A Simple Oscillator Using Memristor. Studies in Computational Intelligence, 2017, , 19-58.	0.7	5
74	A Deep Learning Based Approach for Strawberry Yield Prediction via Semantic Graphics. , 2021, , .		5
75	Very high speed Viterbi decoder with circularly connected analog CNN cell array. , 0, , .		4
76	An Analog Viterbi Decoder for PRML using Analog Parallel Processing Circuits of the CNN. , 2006, , .		4
77	TEXTURE GENERATION USING CELLULAR NEURAL NETWORKS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2006, 16, 3655-3668.	0.7	4
78	A NEW CNN OSCILLATOR MODEL FOR PARALLEL IMAGE SEGMENTATION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2008, 18, 1999-2015.	0.7	4
79	Binary synchronization in cellular automata for building compact CDMA systems. , 2009, , .		4
80	Autonomous technologies of global vision-based golf ball collection robot. , 2011, , .		4
81	Precise Modeling of the Protective Effects of Quercetin against Mycotoxin via System Identification with Neural Networks. International Journal of Molecular Sciences, 2019, 20, 1725.	1.8	4
82	High Speed Road Boundary Detection with CNN-Based Dynamic Programming. Lecture Notes in Computer Science, 2002, , 806-813.	1.0	4
83	Distance Weighted Loss for Forest Trail Detection Using Semantic Line. Lecture Notes in Computer Science, 2020, , 302-311.	1.0	4
84	Binary synchronization of chaos in hybrid cellular automata for low complexity image compression and transmission. , 2010, , .		3
85	Manipulator inverse dynamics computation on FPGA for reconfigurable applications. , 2010, , .		3
86	Boosting-Based On-Road Obstacle Sensing Using Discriminative Weak Classifiers. Sensors, 2011, 11, 4372-4384.	2.1	3
87	Memristance drift avoidance with charge bouncing for memristor-based nonvolatile memories. Journal of the Korean Physical Society, 2012, 61, 1418-1421.	0.3	3
88	Features of memristor emulator-based artificial neural synapses. , 2013, , .		3
89	A Depth Measurement System Associated with a Mono-camera and a Rotating Mirror. Lecture Notes in Computer Science, 2002, , 1145-1152.	1.0	3
90	High speed road boundary detection on the images for autonomous vehicle with the multi-layer CNN. , 0, , .		2

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91	CCD Camera-Based Range Sensing with FPGA for Real-Time Processing. Lecture Notes in Computer Science, 2005, , 398-407.	1.0	2
92	Memristor Bridge-Based Artificial Neural Weighting Circuit. , 2014, , 249-265.		2
93	Learning with memristor bridge synapse-based neural networks. , 2014, , .		2
94	Fingerprints of a memristor. , 2014, , .		2
95	Linearized Programming of Memristors for Artificial Neuro-Sensor Signal Processing. Sensors, 2016, 16, 1320.	2.1	2
96	Accurate Modeling of Complex Antitoxin Effect of Quercetin Based on Neural Networks. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2019, 29, 1950013.	0.7	2
97	Memristor Bridge Synapse-based Neural Network Circuit Design and Simulation of the Hardware-Implemented Artificial Neuron. Journal of Institute of Control, Robotics and Systems, 2015, 21, 477-481.	0.1	2
98	Robust Fault Matched Optical Flow Detection Using 2D Histogram. Lecture Notes in Computer Science, 2006, , 1172-1179.	1.0	2
99	Automatic Detection of Paprika Diseases/Pests Outbroken during the Hydroponic Cultivation in Greenhouse using Artificial Intelligence. Journal of Institute of Control, Robotics and Systems, 2018, 24, 1020-1024.	0.1	2
100	A pixel-level coarse-to-fine image segmentation labelling algorithm. Scientific Reports, 2022, 12, .	1.6	2
101	Optimal path finding with space variant metric weights via multilayer CNN-UM. , 0, , .		1
102	Generation of patterns with predefined statistical properties using Cellular Neural Networks. , 2006, , .		1
103	GENERATION OF COMPLEX STOCHASTIC TEXTURES USING CELLULAR NEURAL NETWORKS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 3171-3181.	0.7	1
104	Road oundary detection with double filtering for intelligent vehicle. , 2007, , .		1
105	A robust depth measurement method with optimal trace tracking of structured light using dynamic programming. , 2008, , .		1
106	Application of Poincare-Mapping of Voiced-Speech Segments for Emotion Sensing. Sensors, 2009, 9, 9858-9872.	2.1	1
107	Accurate and Robust Surface Measurement Using Optimal Structured Light Tracking Method. IEICE Transactions on Information and Systems, 2010, E93-D, 293-299.	0.4	1
108	Heading direction computation of golf-ball collecting robot using vanishing points. , 2011, , .		1

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109	Memristor emulator with off-the-shelf solid state components for memristor application circuits. , 2012, , .		1
110	Composite memristance of parallel and serial memristor circuits. , 2013, , .		1
111	Operational characteristics of multi-memristor circuits. , 2014, , .		1
112	Linear programming of voltage-controlled memristors with an anti-serial memristor circuit. , 2015, , .		1
113	Pattern Classification with Parallel Processing of the Cellular Neural Networks-Based Dynamic Programming. Lecture Notes in Computer Science, 2003, , 265-273.	1.0	1
114	Parallel Implementation of Elastic Grid Matching Using Cellular Neural Networks. Lecture Notes in Computer Science, 2007, , 472-481.	1.0	1
115	Brains Are Made of Memristors. , 2019, , 315-350.		1
116	Analysis of Microscopic Mast Cell Images Based on Network of Synchronised Oscillators. Lecture Notes in Computer Science, 2007, , 346-354.	1.0	1
117	Dependant distance potential source algorithm for optimal path finding with the analogic CNN. , 0, , .		0
118	Initiation and tracking of dim target via fusion of feature probabilities with CNN-UM. , 0, , .		0
119	Enhanced laser image position detection of the mlm-based depth measurement system. , 2005, , .		0
120	NONLINEAR PATTERN CLASSIFICATION ASSOCIATED WITH CELLULAR NEURAL NETWORKS-BASED DYNAMIC PROGRAMMING. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2005, 15, 169-179.	0.7	0
121	Maximum Likelihood Decoding of the Partial Response Signal with Analog Parallel Processing Circuits of the CNN. , 0, , .		0
122	Pattern detection in spectrograms by means of Cellular Neural Networks. , 2006, , .		0
123	Deinterlacing Digital Images by Selective Use of Equi-Displacement Optical Flows. , 2009, , .		0
124	IMPLEMENTATION OF THE COMPLEX PROCESSING OF DYNAMIC PROGRAMMING WITH NONLINEAR TEMPLATES OF CELLULAR NEURAL NETWORKS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 2109-2121.	0.7	0
125	Circular-buffered architecture for Cellular Neural Networks-based analog Viterbi decoder. , 2010, , .		0
126	IMPASSE POINTS, MUTATORS, AND OTHER CHUA CREATIONS. , 2013, , 25-35.		0

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127	Design of cellular neural network architecture using memristors. , 2015, , .		0
128	Accelerating projections to kernel-induced spaces by feature approximation. Pattern Recognition Letters, 2020, 136, 31-39.	2.6	0
129	Neuro-Memristive Circuit for Bio-Synaptic Plasticity. , 2021, , .		0
130	A Neural Network Circuit Development via Software-Based Learning and Circuit-Based Fine Tuning. Lecture Notes in Computer Science, 2017, , 216-228.	1.0	0
131	Why are Memristor and Memistor Different Devices?. , 2019, , 247-265.		0
132	Behavior of Multiple Memristor Circuits. , 2019, , 913-940.		0
133	Memristor Bridge-Based Artificial Neural Weighting Circuit. , 2019, , 619-635.		0