Huajin Tang

List of Publications by Year
in descending order

83 papers	2,124 citations	257450 24 h-index	265206 42 g-index
84 all docs	84 docs citations	84 times ranked	1680 citing authors

#	Article	IF	Citations
1	Feedforward Categorization on AER Motion Events Using Cortex-Like Features in a Spiking Neural Network. IEEE Transactions on Neural Networks and Learning Systems, 2015, 26, 1963-1978.	11.3	160
2	Event-Based Neuromorphic Vision for Autonomous Driving: A Paradigm Shift for Bio-Inspired Visual Sensing and Perception. IEEE Signal Processing Magazine, 2020, 37, 34-49.	5.6	147
3	Connections Between Nuclear-Norm and Frobenius-Norm-Based Representations. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 218-224.	11.3	141
4	Precise-Spike-Driven Synaptic Plasticity: Learning Hetero-Association of Spatiotemporal Spike Patterns. PLoS ONE, 2013, 8, e78318.	2.5	137
5	Rapid Feedforward Computation by Temporal Encoding and Learning With Spiking Neurons. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1539-1552.	11.3	120
6	A brain-inspired spiking neural network model with temporal encoding and learning. Neurocomputing, 2014, 138, 3-13.	5.9	106
7	A Spike-Timing-Based Integrated Model for Pattern Recognition. Neural Computation, 2013, 25, 450-472.	2.2	70
8	A Spiking Neural Network System for Robust Sequence Recognition. IEEE Transactions on Neural Networks and Learning Systems, 2016, 27, 621-635.	11.3	70
9	How the Brain Formulates Memory: A Spatio-Temporal Model Research Frontier. IEEE Computational Intelligence Magazine, 2016, 11, 56-68.	3.2	55
10	An FPGA Implementation of Deep Spiking Neural Networks for Low-Power and Fast Classification. Neural Computation, 2020, 32, 182-204.	2.2	46
11	Temporal coding of local spectrogram features for robust sound recognition. , 2013, , .		42
12	STCA: Spatio-Temporal Credit Assignment with Delayed Feedback in Deep Spiking Neural Networks. , 2019, , .		41
13	Adaptive and Learning Control for SI Engine Model With Uncertainties. IEEE/ASME Transactions on Mechatronics, 2009, 14, 93-104.	5.8	40
14	Bag of Events: An Efficient Probability-Based Feature Extraction Method for AER Image Sensors. IEEE Transactions on Neural Networks and Learning Systems, 2017, 28, 791-803.	11.3	40
15	Cognitive Navigation by Neuro-Inspired Localization, Mapping, and Episodic Memory. IEEE Transactions on Cognitive and Developmental Systems, 2018, 10, 751-761.	3.8	39
16	CSNN: An Augmented Spiking based Framework with Perceptron-Inception. , 2018, , .		38
17	A Columnar Competitive Model for Solving Combinatorial Optimization Problems. IEEE Transactions on Neural Networks, 2004, 15, 1568-1573.	4.2	37
18	Spiking Deep Residual Networks. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 5200-5205.	11.3	34

#	ARTICLE	IF	CITATIONS
19	Deep CovDenseSNN: A hierarchical event-driven dynamic framework with spiking neurons in noisy environment. Neural Networks, 2020, 121, 512-519.	5.9	29
20	Effective AER Object Classification Using Segmented Probability-Maximization Learning in Spiking Neural Networks. Proceedings of the AAAI Conference on Artificial Intelligence, 2020, 34, 1308-1315.	4.9	29
21	An Event-Driven Categorization Model for AER Image Sensors Using Multispike Encoding and Learning. IEEE Transactions on Neural Networks and Learning Systems, 2020, 31, 3649-3657.	11.3	28
22	Dynamics Analysis and Analog Associative Memory of Networks With LT Neurons. IEEE Transactions on Neural Networks, 2006, 17, 409-418.	4.2	27
23	Cognitive memory and mapping in a brain-like system for robotic navigation. Neural Networks, 2017, 87, 27-37.	5.9	27
24	Memory Dynamics in Attractor Networks with Saliency Weights. Neural Computation, 2010, 22, 1899-1926.	2.2	26
25	A brain-inspired SLAM system based on ORB features. International Journal of Automation and Computing, 2017, 14, 564-575.	4.5	25
26	Sparse Temporal Encoding of Visual Features for Robust Object Recognition by Spiking Neurons. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 5823-5833.	11.3	24
27	A columnar competitive model for solving multi-traveling salesman problem. Chaos, Solitons and Fractals, 2007, 31, 1009-1019.	5.1	22
28	Deep Spiking Neural Networks With Binary Weights for Object Recognition. IEEE Transactions on Cognitive and Developmental Systems, 2021, 13, 514-523.	3.8	22
29	Fast low rank representation based spatial pyramid matching for image classification. Knowledge-Based Systems, 2015, 90, 14-22.	7.1	20
30	Unsupervised AER Object Recognition Based on Multiscale Spatio-Temporal Features and Spiking Neurons. IEEE Transactions on Neural Networks and Learning Systems, 2020, 31, 5300-5311.	11.3	20
31	Gesture Recognition Based on Localist Attractor Networks with Application to Robot Control [Application Notes]. IEEE Computational Intelligence Magazine, 2012, 7, 64-74.	3.2	19
32	A Novel Illumination-Robust Hand Gesture Recognition System With Event-Based Neuromorphic Vision Sensor. IEEE Transactions on Automation Science and Engineering, 2021, 18, 508-520.	5.2	19
33	Spike trains encoding and threshold rescaling method for deep spiking neural networks. , 2017, , .		18
34	Event-based Action Recognition Using Motion Information and Spiking Neural Networks. , 2021, , .		17
35	Direction-driven navigation using cognitive map for mobile robots. , 2014, , .		15
36	Automatic Object Searching and Behavior Learning for Mobile Robots in Unstructured Environment by Deep Belief Networks. IEEE Transactions on Cognitive and Developmental Systems, 2019, 11, 395-404.	3.8	15

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37	Robust Environmental Sound Recognition With Sparse Key-Point Encoding and Efficient Multispike Learning. IEEE Transactions on Neural Networks and Learning Systems, 2021, 32, 625-638.	11.3	15
38	NeuroAED: Towards Efficient Abnormal Event Detection in Visual Surveillance With Neuromorphic Vision Sensor. IEEE Transactions on Information Forensics and Security, 2021, 16, 923-936.	6.9	15
39	Engine control design using globally linearizing control and sliding mode. Transactions of the Institute of Measurement and Control, 2010, 32, 225-247.	1.7	13
40	A Discrete-Time Neural Network for Optimization Problems With Hybrid Constraints. IEEE Transactions on Neural Networks, 2010, 21, 1184-1189.	4.2	13
41	Real-Time Keypoint Recognition Using Restricted Boltzmann Machine. IEEE Transactions on Neural Networks and Learning Systems, 2014, 25, 2119-2126.	11.3	13
42	Neuromorphic Cognitive Systems. Intelligent Systems Reference Library, 2017, , .	1.2	13
43	Spike-based encoding and learning of spectrum features for robust sound recognition. Neurocomputing, 2018, 313, 65-73.	5.9	13
44	Robust Transcoding Sensory Information With Neural Spikes. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 1935-1946.	11.3	13
45	Effective Transfer Learning Algorithm in Spiking Neural Networks. IEEE Transactions on Cybernetics, 2022, 52, 13323-13335.	9.5	12
46	Synaptic conditions for auto-associative memory storage and pattern completion in Jensen et al.â€™s model of hippocampal area CA3. Journal of Computational Neuroscience, 2012, 33, 435-447.	1.0	11
47	Toward Efficient Processing and Learning With Spikes: New Approaches for Multispike Learning. IEEE Transactions on Cybernetics, 2022, 52, 1364-1376.	9.5	11
48	Jointly Learning Network Connections and Link Weights in Spiking Neural Networks. , 2018, , .		11
49	Nontrivial Global Attractors in 2-D Multistable Attractor Neural Networks. IEEE Transactions on Neural Networks, 2009, 20, 1842-1851.	4.2	10
50	Natural scene statistics and the structure of orientation maps in the visual cortex. NeuroImage, 2009, 47, 157-172.	4.2	10
51	A structureâ€"time parallel implementation of spike-based deep learning. Neural Networks, 2019, 113, 72-78.	5.9	10
52	Why grid cells function as a metric for space. Neural Networks, 2021, 142, 128-137.	5.9	10
53	Fast and Accurate Classification with a Multi-Spike Learning Algorithm for Spiking Neurons. , 2019, , .		10
54	Reinforcement Learning in Spiking Neural Networks with Stochastic and Deterministic Synapses. Neural Computation, 2019, 31, 2368-2389.	2.2	9

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55	Editorial: Understanding and Bridging the Gap Between Neuromorphic Computing and Machine Learning. Frontiers in Computational Neuroscience, 2021, 15, 665662.	2.1	9
56	Few-Shot Learning in Spiking Neural Networks by Multi-Timescale Optimization. Neural Computation, 2021, 33, 2439-2472.	2.2	9
57	A Supervised Multi-Spike Learning Algorithm for Spiking Neural Networks. , 2018, , .		8
58	A Hardware Implementation of SNN-Based Spatio-Temporal Memory Model. Frontiers in Neuroscience, 2019, 13, 835.	2.8	8
59	Vision enhanced neuro-cognitive structure for robotic spatial cognition. Neurocomputing, 2014, 129, 49-58.	5.9	6
60	Indoor Lighting Estimation using an Event Camera. , 2021, , .		6
61	A Simplified Cerebellar Model with Priority-based Delayed Eligibility Trace Learning for Motor Control. IEEE Transactions on Autonomous Mental Development, 2015, 7, 26-38.	1.6	5
62	Multi-Level Firing with Spiking DS-ResNet: Enabling Better and Deeper Directly-Trained Spiking Neural Networks. , 2022, , .		5
63	A Multi-spike Approach for Robust Sound Recognition. , 2019, , .		4
64	An Event-based Categorization Model Using Spatio-temporal Features in a Spiking Neural Network. , 2020, , .		3
65	Multi-Scale Extension in an Entorhinal-Hippocampal Model for Cognitive Map Building. Frontiers in Neurorobotics, 2020, 14, 592057.	2.8	3
66	Editorial: Explainable Artificial Intelligence and Neuroscience: Cross-Disciplinary Perspectives. Frontiers in Neurorobotics, 2021, 15, 731733.	2.8	3
67	Training Deep Convolutional Spiking Neural Networks With Spike Probabilistic Global Pooling. Neural Computation, 2022, 34, 1170-1188.	2.2	3
68	Hebbian learning analysis of a grid cell based cognitive mapping system. , 2016, , .		2
69	Guest Editorial Special Issue on Neuromorphic Computing and Cognitive Systems. IEEE Transactions on Cognitive and Developmental Systems, 2018, 10, 122-125.	3.8	2
70	Guest Editorial Special Section on Emerging Information Sharing and Design Technologies on Robotics and Mechatronics Systems for Intelligent Manufacturing. IEEE Transactions on Industrial Informatics, 2019, 15, 1643-1646.	11.3	2
71	An Efficient Learning Algorithm for Direct Training Deep Spiking Neural Networks. IEEE Transactions on Cognitive and Developmental Systems, 2022, 14, 847-856.	3.8	2
72	An Event-Driven Object Recognition Model Using Activated Connected Domain Detection. , 2020, , .		2

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73	A Hybrid Loop Closure Detection Method Based on Brain-Inspired Models. IEEE Transactions on Cognitive and Developmental Systems, 2022, 14, 1532-1543.	3.8	2
74	Event-Based Multimodal Spiking Neural Network with Attention Mechanism. , 2022, , .		2
75	Robust Multipitch Estimation of Piano Sounds Using Deep Spiking Neural Networks. , 2019, , .		1
76	Robot-to-human handover with obstacle avoidance via continuous time Recurrent Neural Network. , 2016, , .		0
77	Corrections to â€œCognitive Navigation by Neuro-Inspired Localization, Mapping, and Episodic Memoryâ€• [Sep 18 751-761]. IEEE Transactions on Cognitive and Developmental Systems, 2018, 10, 1165-1165.	3.8	0
78	A temporal encoding method based on expansion representation. , 2019, , .		0
79	Editorial: Cognitive Multitasking â€" Towards Augmented Intelligence. Frontiers in Neuroscience, 2021, 15, 619090.	2.8	0
80	An improved hash function inspired by the fly hashing for near duplicate detections. , 2020, , .		0
81	Grid cell modeling with mapping representation of self-motion for path integration. Neural Computing and Applications, 0, , 1.	5.6	0
82	Editorial IEEE Transactions on Cognitive and Developmental Systems. IEEE Transactions on Cognitive and Developmental Systems, 2022, 14, 2-3.	3.8	0
83	Learning Local Event-based Descriptor for Patch-based Stereo Matching. , 2022, , .		0