Abigail Morrison

List of Publications by Year
in descending order

70	2,776	304743	189892
papers	citations	22 h-index	50 g-index

76	76	76	2156
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	RateML: A Code Generation Tool for Brain Network Models. Frontiers in Network Physiology, 2022, 2, .	1.8	5
2	Deploying and Optimizing Embodied Simulations of Large-Scale Spiking Neural Networks on HPC Infrastructure. Frontiers in Neuroinformatics, 2022, 16, .	2.5	8
3	NEST: The Neural Simulation Tool. , 2022, , 2187-2189.		0
4	Unsupervised Learning and Clustered Connectivity Enhance Reinforcement Learning in Spiking Neural Networks. Frontiers in Computational Neuroscience, 2021, 15, 543872.	2.1	9
5	ConGenâ€"A Simulator-Agnostic Visual Language for Definition and Generation of Connectivity in Large and Multiscale Neural Networks. Frontiers in Neuroinformatics, 2021, 15, 766697.	2.5	0
6	Firing rate homeostasis counteracts changes in stability of recurrent neural networks caused by synapse loss in Alzheimerâ€™s disease. PLoS Computational Biology, 2020, 16, e1007790.	3.2	10
7	A Closed-Loop Toolchain for Neural Network Simulations of Learning Autonomous Agents. Frontiers in Computational Neuroscience, 2019, 13, 46.	2.1	6
8	Leveraging heterogeneity for neural computation with fading memory in layer 2/3 cortical microcircuits. PLoS Computational Biology, 2019, 15, e1006781.	3.2	22
9	Staged deployment of interactive multi-application HPC workflows. , 2019, , .		2
10	Passing the Message: Representation Transfer in Modular Balanced Networks. Frontiers in Computational Neuroscience, 2019, 13, 79.	2.1	12
11	Editorial: Linking experimental and computational connectomics. Network Neuroscience, 2019, 3, 902-904.	2.6	4
12	Exploring the role of striatal D1 and D2 medium spiny neurons in action selection using a virtual robotic framework. European Journal of Neuroscience, 2019, 49, 737-753.	2.6	14
13	NEST: The Neural Simulation Tool. , 2019, , 1-3.		0
14	Rigorous Neural Network Simulations: A Model Substantiation Methodology for Increasing the Correctness of Simulation Results in the Absence of Experimental Validation Data. Frontiers in Neuroinformatics, 2018, 12, 81.	2.5	12
15	Encoding symbolic sequences with spiking neural reservoirs. , 2018, , .		9
16	Automatically Selecting a Suitable Integration Scheme for Systems of Differential Equations in Neuron Models. Frontiers in Neuroinformatics, 2018, 12, 50.	2.5	9
17	Code Generation in Computational Neuroscience: A Review of Tools and Techniques. Frontiers in Neuroinformatics, 2018, 12, 68.	2.5	32
18	Transferring State Representations in Hierarchical Spiking Neural Networks. , 2018, , .		5

#	Article	IF	Citations
19	On the Extraction and Analysis of Graphs From Resting-State fMRI to Support a Correct and Robust Diagnostic Tool for Alzheimer's Disease. Frontiers in Neuroscience, 2018, 12, 528.	2.8	7
20	Reproducing Polychronization: A Guide to Maximizing the Reproducibility of Spiking Network Models. Frontiers in Neuroinformatics, 2018, 12, 46.	2.5	34
21	Toward Rigorous Parameterization of Underconstrained Neural Network Models Through Interactive Visualization and Steering of Connectivity Generation. Frontiers in Neuroinformatics, 2018, 12, 32.	2.5	11
22	Synaptic patterning and the timescales of cortical dynamics. Current Opinion in Neurobiology, 2017, 43, 156-165.	4.2	37
23	Homologous Basal Ganglia Network Models in Physiological and Parkinsonian Conditions. Frontiers in Computational Neuroscience, 2017, 11, 79.	2.1	14
24	Automatic Generation of Connectivity for Large-Scale Neuronal Network Models through Structural Plasticity. Frontiers in Neuroanatomy, 2016, 10, 57.	1.7	42
25	Effects of Calcium Spikes in the Layer 5 Pyramidal Neuron on Coincidence Detection and Activity Propagation. Frontiers in Computational Neuroscience, 2016, 10, 76.	2.1	7
26	Closed Loop Interactions between Spiking Neural Network and Robotic Simulators Based on MUSIC and ROS. Frontiers in Neuroinformatics, 2016, 10, 31.	2.5	25
27	Corticostriatal circuit mechanisms of value-based action selection: Implementation of reinforcement learning algorithms and beyond. Behavioural Brain Research, 2016, 311, 110-121.	2.2	12
28	Modeling the calcium spike as a threshold triggered fixed waveform for synchronous inputs in the fluctuation regime. Frontiers in Computational Neuroscience, 2015, 9, 91.	2.1	2
29	Reconstruction of recurrent synaptic connectivity of thousands of neurons from simulated spiking activity. Journal of Computational Neuroscience, 2015, 39, 77-103.	1.0	47
30	Dynamic stability of sequential stimulus representations in adapting neuronal networks. Frontiers in Computational Neuroscience, 2014, 8, 124.	2.1	32
31	Liquid computing on and off the edge of chaos with a striatal microcircuit. Frontiers in Computational Neuroscience, 2014, 8, 130.	2.1	7
32	CyNEST: a maintainable Cython-based interface for the NEST simulator. Frontiers in Neuroinformatics, 2014, 8, 23.	2.5	24
33	Spiking network simulation code for petascale computers. Frontiers in Neuroinformatics, 2014, 8, 78.	2.5	87
34	Temporal sequence learning via adaptation in biologically plausible spiking neural networks. BMC Neuroscience, 2014, 15, .	1.9	1
35	From laptops to supercomputers: a single highly scalable code base for spiking neuronal network simulations. BMC Neuroscience, 2013, 14, .	1.9	2
36	NEST: The Neural Simulation Tool. , 2013, , 1-4.		3

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37	NEST by Example: An Introduction to the Neural Simulation Tool NEST. , 2012, , 533-558.		10
38	Learning from positive and negative rewards in a spiking neural network model of basal ganglia. , 2012, , .		7
39	Supercomputers Ready for Use as Discovery Machines for Neuroscience. Frontiers in Neuroinformatics, 2012, 6, 26.	2.5	50
40	Increasing quality and managing complexity in neuroinformatics software development with continuous integration. Frontiers in Neuroinformatics, 2012, 6, 31.	2.5	11
41	Learning from Delayed Reward und Punishment in a Spiking Neural Network Model of Basal Ganglia with Opposing D1/D2 Plasticity. Lecture Notes in Computer Science, 2012, , 459-466.	1.3	0
42	A Compositionality Machine Realized by a Hierarchic Architecture of Synfire Chains. Frontiers in Computational Neuroscience, 2011, 4, 154.	2.1	18
43	Compositionality of arm movements can be realized by propagating synchrony. Journal of Computational Neuroscience, 2011, 30, 675-697.	1.0	11
44	A reafferent and feed-forward model of song syntax generation in the Bengalese finch. Journal of Computational Neuroscience, 2011, 31, 509-532.	1.0	24
45	Fail-safe detection of threshold crossings of linear integrate-and-fire neuron models in time-driven simulations. BMC Neuroscience, 2011, 12, .	1.9	1
46	NineML: the network interchange for ne uroscience modeling language. BMC Neuroscience, 2011, 12, .	1.9	27
47	An Imperfect Dopaminergic Error Signal Can Drive Temporal-Difference Learning. PLoS Computational Biology, 2011, 7, e1001133.	3.2	44
48	Meeting the Memory Challenges of Brain-Scale Network Simulation. Frontiers in Neuroinformatics, 2011, 5, 35.	2.5	42
49	Random wiring limits the development of functional structure in large recurrent neuronal networks. BMC Neuroscience, 2010, 11, .	1.9	4
50	A reafferent model of song syntax generation in the Bengalese finch. BMC Neuroscience, 2010, 11, .	1.9	3
51	Enabling Functional Neural Circuit Simulations with Distributed Computing of Neuromodulated Plasticity. Frontiers in Computational Neuroscience, 2010, 4, 141.	2.1	29
52	Limits to the development of feed-forward structures in large recurrent neuronal networks. Frontiers in Computational Neuroscience, 2010, 4, 160.	2.1	35
53	A General and Efficient Method for Incorporating Precise Spike Times in Globally Time-Driven Simulations. Frontiers in Neuroinformatics, 2010, 4, 113.	2.5	49
54	Efficient Identification of Assembly Neurons within Massively Parallel Spike Trains. Computational Intelligence and Neuroscience, 2010, 2010, 1-18.	1.7	23

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55	Practically Trivial Parallel Data Processing in a Neuroscience Laboratory. , 2010, , 413-436.		6
56	A Spiking Neural Network Model of an Actor-Critic Learning Agent. Neural Computation, 2009, 21, 301-339.	2.2	79
57	A spiking temporal-difference learning model based on dopamine-modulated plasticity. BMC Neuroscience, 2009, 10, .	1.9	2
58	A model of free monkey scribbling based on the propagation of cell assembly activity. BMC Neuroscience, 2009, 10, .	1.9	2
59	Phenomenological models of synaptic plasticity based on spike timing. Biological Cybernetics, 2008, 98, 459-478.	1.3	455
60	Comparison of methods to calculate exact spike times in integrate-and-fire neurons with exponential currents. BMC Neuroscience, 2008, 9, .	1.9	1
61	Efficient Parallel Simulation of Large-Scale Neuronal Networks on Clusters of Multiprocessor Computers. Lecture Notes in Computer Science, 2007, , 672-681.	1.3	50
62	Spike-Timing-Dependent Plasticity in Balanced Random Networks. Neural Computation, 2007, 19, 1437-1467.	2.2	284
63	Exact Subthreshold Integration with Continuous Spike Times in Discrete-Time Neural Network Simulations. Neural Computation, 2007, 19, 47-79.	2.2	101
64	Simulation of networks of spiking neurons: A review of tools and strategies. Journal of Computational Neuroscience, 2007, 23, 349-398.	1.0	639
65	Maintaining Causality in Discrete Time Neuronal Network Simulations. , 2007, , 267-278.		12
66	Multithreaded and Distributed Simulation of Large Biological Neuronal Networks. Lecture Notes in Computer Science, 2007, , 391-392.	1.3	3
67	Programmable Logic Construction Kits for Hyper-Real-Time Neuronal Modeling. Neural Computation, 2006, 18, 2651-2679.	2.2	23
68	Advancing the Boundaries of High-Connectivity Network Simulation with Distributed Computing. Neural Computation, 2005, 17, 1776-1801.	2.2	161
69	Consequences of realistic network size on the stability of embedded synfire chains. Neurocomputing, 2004, 58-60, 117-121.	5.9	11
70	A System-on-Chip Based Hybrid Neuromorphic Compute Node Architecture for Reproducible Hyper-Real-Time Simulations of Spiking Neural Networks. Frontiers in Neuroinformatics, 0, 16, .	2.5	2