Anders Lansner

List of Publications by Year
in descending order

139 papers	6,241 citations	126708 33 h-index	79541 73 g-index
145 all docs	145 docs citations	145 times ranked	6257 citing authors

#	Article	IF	Citations
1	Traces of Semantization, from Episodic to Semantic Memory in a Spiking Cortical Network Model. ENeuro, 2022, 9, ENEURO.0062-22.2022.	0.9	1
2	Approximate computation of post-synaptic spikes reduces bandwidth to synaptic storage in a model of cortex. , 2021, , .		0
3	A Memristor Model with Concise Window Function for Spiking Brain-Inspired Computation. , 2021, , .		6
4	StreamBrain. , 2021, , .		2
5	Brain-Like Approaches to Unsupervised Learning of Hidden Representations - A Comparative Study. Lecture Notes in Computer Science, 2021, , 162-173.	1.0	4
6	Mapping the BCPNN Learning Rule to a Memristor Model. Frontiers in Neuroscience, 2021, 15, 750458.	1.4	3
7	Optimizing BCPNN Learning Rule for Memory Access. Frontiers in Neuroscience, 2020, 14, 878.	1.4	4
8	eBrainII: a 3ÂkW Realtime Custom 3D DRAM Integrated ASIC Implementation of a Biologically Plausible Model of a Human Scale Cortex. Journal of Signal Processing Systems, 2020, 92, 1323-1343.	1.4	9
9	Learning representations in Bayesian Confidence Propagation neural networks. , 2020, , .		6
10	Analysis of free recall dynamics of an abstract working memory model. , 2020, , .		1
11	A FPGA-based Hardware Accelerator for Bayesian Confidence Propagation Neural Network. , 2020, , .		2
12	An Indexing Theory for Working Memory Based on Fast Hebbian Plasticity. ENeuro, 2020, 7, ENEURO.0374-19.2020.	0.9	23
13	Probabilistic associative learning suffices for learning the temporal structure of multiple sequences. PLoS ONE, 2019, 14, e0220161.	1.1	6
14	Introducing double bouquet cells into a modular cortical associative memory model. Journal of Computational Neuroscience, 2019, 47, 223-230.	0.6	6
15	Sequence Disambiguation with Synaptic Traces in Associative Neural Networks. Lecture Notes in Computer Science, 2019, , 793-805.	1.0	0
16	Title is missing!. , 2019, 14, e0220161.		0
17	Title is missing!. , 2019, 14, e0220161.		0
18	Title is missing!. , 2019, 14, e0220161.		0

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19	Pedestrian simulation as multi-objective reinforcement learning. , 2018, , .		5
20	The language of smell: Connecting linguistic and psychophysical properties of odor descriptors. Cognition, 2018, 178, 37-49.	1.1	29
21	A Spiking Working Memory Model Based on Hebbian Short-Term Potentiation. Journal of Neuroscience, 2017, 37, 83-96.	1.7	6
22	Odor recognition in an attractor network model of the mammalian olfactory cortex. , 2017, , .		3
23	A Spiking Working Memory Model Based on Hebbian Short-Term Potentiation. Journal of Neuroscience, 2017, 37, 83-96.	1.7	88
24	Large-Scale Simulations of Plastic Neural Networks on Neuromorphic Hardware. Frontiers in Neuroanatomy, 2016, 10, 37.	0.9	16
25	Functional Relevance of Different Basal Ganglia Pathways Investigated in a Spiking Model with Reward Dependent Plasticity. Frontiers in Neural Circuits, 2016, 10, 53.	1.4	16
26	Spike-Based Bayesian-Hebbian Learning of Temporal Sequences. PLoS Computational Biology, 2016, 12, e1004954.	1.5	41
27	Long-range recruitment of Martinotti cells causes surround suppression and promotes saliency in an attractor network model. Frontiers in Neural Circuits, 2015, 9, 60.	1.4	7
28	Reducing the computational footprint for real-time BCPNN learning. Frontiers in Neuroscience, 2015, 9, 2.	1.4	13
29	Computing the Local Field Potential (LFP) from Integrate-and-Fire Network Models. PLoS Computational Biology, 2015, 11, e1004584.	1.5	391
30	Neurocognitive Architecture of Working Memory. Neuron, 2015, 88, 33-46.	3.8	494
31	Memory Consolidation from Seconds to Weeks Through Autonomous Reinstatement Dynamics in a Three-Stage Neural Network Model. Advances in Cognitive Neurodynamics, 2015, , 47-53.	0.1	1
32	Optogenetic Stimulation in a Computational Model of the Basal Ganglia Biases Action Selection and Reward Prediction Error. PLoS ONE, 2014, 9, e90578.	1.1	1
33	A spiking neural network model of self-organized pattern recognition in the early mammalian olfactory system. Frontiers in Neural Circuits, 2014, 8, 5.	1.4	21
34	Memory consolidation from seconds to weeks: a three-stage neural network model with autonomous reinstatement dynamics. Frontiers in Computational Neuroscience, 2014, 8, 64.	1.2	27
35	Synaptic and nonsynaptic plasticity approximating probabilistic inference. Frontiers in Synaptic Neuroscience, 2014, 6, 8.	1.3	34
36	Signature of an anticipatory response in area VI as modeled by a probabilistic model and a spiking neural network. , 2014, , .		3

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37	A biomimetic approach to machine olfaction, featuring a very large-scale chemical sensor array and embedded neuro-bio-inspired computation. Microsystem Technologies, 2014, 20, 729-742.	1.2	36
38	Spiking brain models: Computation, memory and communication constraints for custom hardware implementation. , 2014, , .		6
39	A scalable custom simulation machine for the Bayesian Confidence Propagation Neural Network model of the brain. , 2014, , .		9
40	Characterization and Compensation of Network-Level Anomalies in Mixed-Signal Neuromorphic Modeling Platforms. PLoS ONE, 2014, 9, e108590.	1.1	42
41	Effect of Prestimulus Alpha Power, Phase, and Synchronization on Stimulus Detection Rates in a Biophysical Attractor Network Model. Journal of Neuroscience, 2013, 33, 11817-11824.	1.7	29
42	Stimulus detection rate and latency, firing rates and 1â€"40Hz oscillatory power are modulated by infra-slow fluctuations in a bistable attractor network model. NeuroImage, 2013, 83, 458-471.	2.1	13
43	Probabilistic computation underlying sequence learning in a spiking attractor memory network. BMC Neuroscience, 2013, 14, .	0.8	1
44	Nested theta to gamma oscillations and precise spatiotemporal firing during memory retrieval in a simulated attractor network. Brain Research, 2013, 1536, 68-87.	1.1	39
45	Arterial Input Function Derived from Pairwise Correlations Between PET-image Voxels. Journal of Cerebral Blood Flow and Metabolism, 2013, 33, 1058-1065.	2.4	76
46	A modular attractor associative memory with patchy connectivity and weight pruning. Network: Computation in Neural Systems, 2013, 24, 129-150.	2.2	13
47	Anisotropic connectivity implements motion-based prediction in a spiking neural network. Frontiers in Computational Neuroscience, 2013, 7, 112.	1.2	13
48	Attractor Hypothesis of Associative Cortex: Insights from a Biophysically Detailed Network Model. , 2013, , .		3
49	Reactivation in Working Memory: An Attractor Network Model of Free Recall. PLoS ONE, 2013, 8, e73776.	1.1	30
50	Virtues, Pitfalls, and Methodology of Neuronal Network Modeling and Simulations on Supercomputers. , 2012, , 283-315.		18
51	Nexa: A scalable neural simulator with integrated analysis. Network: Computation in Neural Systems, 2012, 23, 254-271.	2.2	0
52	A Cortical Attractor Network with Martinotti Cells Driven by Facilitating Synapses. PLoS ONE, 2012, 7, e30752.	1.1	20
53	Action selection performance of a reconfigurable basal ganglia inspired model with Hebbianâ€"Bayesian Go-NoGo connectivity. Frontiers in Behavioral Neuroscience, 2012, 6, 65.	1.0	18
54	Variability of spike firing during theta-coupled replay of memories in a simulated attractor network. Brain Research, 2012, 1434, 152-161.	1.1	11

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55	Is Attentional Blink a Byproduct of Neocortical Attractors?. Frontiers in Computational Neuroscience, 2011, 5, 13.	1.2	10
56	Map Formation in the Olfactory Bulb by Axon Guidance of Olfactory Neurons. Frontiers in Systems Neuroscience, 2011, 5, 84.	1.2	5
57	A comprehensive workflow for general-purpose neural modeling with highly configurable neuromorphic hardware systems. Biological Cybernetics, 2011, 104, 263-296.	0.6	72
58	Perceptual and memory functions in a cortex-inspired attractor network model. BMC Neuroscience, 2011, 12, .	0.8	0
59	A hybrid model of the primary visual cortex. BMC Neuroscience, 2011, 12, .	0.8	1
60	A large-scale model of the three first stages of the mammalian olfactory system implemented with spiking neurons. BMC Neuroscience, 2011, 12, .	0.8	3
61	A cortical attractor network with dynamic synapses. BMC Neuroscience, 2011, 12, .	0.8	0
62	Odor segmentation and identification in an abstract large-scale model of the mammalian olfactory system. BMC Neuroscience, 2011, 12, .	0.8	0
63	An abstract model of the basal ganglia, reward learning and action selection. BMC Neuroscience, 2011, 12, .	0.8	0
64	Scaling of a biophysical neocortical attractor model using Parallel NEURON on the Blue Gene /P. BMC Neuroscience, 2011, 12, .	0.8	1
65	A neural model of human fear pathways based on anatomical and neuroimaging data. BMC Neuroscience, 2011, 12, .	0.8	0
66	Theta and Gamma Power Increases and Alpha/Beta Power Decreases with Memory Load in an Attractor Network Model. Journal of Cognitive Neuroscience, 2011, 23, 3008-3020.	1.1	194
67	A novel model-free data analysis technique based on clustering in a mutual information space: application to resting-state fMRI. Frontiers in Systems Neuroscience, 2010, 4, .	1.2	11
68	Bistable, Irregular Firing and Population Oscillations in a Modular Attractor Memory Network. PLoS Computational Biology, 2010, 6, e1000803.	1.5	149
69	Simple cellular and network control principles govern complex patterns of motor behavior. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20027-20032.	3.3	109
70	A Bulb Model Implementing Fuzzy Coding of Odor Concentration. , 2009, , .		3
71	Implementing plastic weights in neural networks using low precision arithmetic. Neurocomputing, 2009, 72, 968-972.	3.5	6
72	Simulating attentional blink with a neocortical attractor model. BMC Neuroscience, 2009, 10, .	0.8	0

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73	Modeling the response of a population of olfactory receptor neurons to an odorant. Journal of Computational Neuroscience, 2009, 27, 337-355.	0.6	8
74	Associative memory models: from the cell-assembly theory to biophysically detailed cortex simulations. Trends in Neurosciences, 2009, 32, 178-186.	4.2	136
75	From ANN to Biomimetic Information Processing. Studies in Computational Intelligence, 2009, , 33-43.	0.7	7
76	Large-scale modeling â€" a tool for conquering the complexity of the brain. Frontiers in Neuroinformatics, 2008, 2, 1.	1.3	65
77	A mathematical model of the mitochondrial NADH shuttles and anaplerosis in the pancreatic Î²-cell. American Journal of Physiology - Endocrinology and Metabolism, 2007, 292, E373-E393.	1.8	15
78	Imposing Biological Constraints onto an Abstract Neocortical Attractor Network Model. Neural Computation, 2007, 19, 1871-1896.	1.3	18
79	Modeling a vertebrate motor system: pattern generation, steering and control of body orientation. Progress in Brain Research, 2007, 165, 221-234.	0.9	60
80	Roles of Ionic Currents in Lamprey CPG Neurons: A Modeling Study. Journal of Neurophysiology, 2007, 97, 2696-2711.	0.9	17
81	Towards cortex sized artificial neural systems. Neural Networks, 2007, 20, 48-61.	3.3	101
82	Modelling the population of olfactory receptor neurons. BMC Neuroscience, 2007, 8, .	0.8	0
83	Scaling effects in a model of the olfactory bulb. Neurocomputing, 2007, 70, 1802-1807.	3.5	4
84	Simulation of networks of spiking neurons: A review of tools and strategies. Journal of Computational Neuroscience, 2007, 23, 349-398.	0.6	639
85	A hemicord locomotor network of excitatory interneurons: a simulation study. Biological Cybernetics, 2007, 96, 229-243.	0.6	16
86	Attractor dynamics in a modular network model of neocortex. Network: Computation in Neural Systems, 2006, 17, 253-276.	2.2	69
87	Attractor neural networks with patchy connectivity. Neurocomputing, 2006, 69, 627-633.	3.5	11
88	The impact of the distribution of isoforms on CaMKII activation. Neurocomputing, 2006, 69, 1010-1013.	3.5	0
89	Attractor dynamics in a modular network model of the cerebral cortex. Neurocomputing, 2006, 69, 1155-1159.	3.5	3
90	CLUSTERING OF STORED MEMORIES IN AN ATTRACTOR NETWORK WITH LOCAL COMPETITION. International Journal of Neural Systems, 2006, 16, 393-403.	3.2	3

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91	Attractor Memory with Self-organizing Input. Lecture Notes in Computer Science, 2006, , 265-280.	1.0	5
92	The cortex as a central pattern generator. Nature Reviews Neuroscience, 2005, 6, 477-483.	4.9	306
93	A model of the summation pools within the layer 4 (area 17). Neurocomputing, 2005, 65-66, 167-172.	3.5	1
94	Biophysically detailed modelling of microcircuits and beyond. Trends in Neurosciences, 2005, 28, 562-569.	4.2	33
95	Sequence memory with dynamical synapses. Neurocomputing, 2004, 58-60, 271-278.	3.5	12
96	A mathematical model of the Pyrosequencing reaction system. Biophysical Chemistry, 2004, 110, 129-145.	1.5	10
97	Towards Cortex Sized Artificial Nervous Systems. Lecture Notes in Computer Science, 2004, , 959-966.	1.0	3
98	Cell assembly dynamics in detailed and abstract attractor models of cortical associative memory. Theory in Biosciences, 2003, 122, 19-36.	0.6	17
99	Role of A-current in lamprey locomotor network neurons. Neurocomputing, 2003, 52-54, 295-300.	3.5	1
100	Burst dynamics under mixed NMDA and AMPA drive in the models of the lamprey spinal CPG. Neurocomputing, 2003, 52-54, 65-71.	3.5	1
101	A Model of Phosphofructokinase and Glycolytic Oscillations in the Pancreatic Î²-cell. Biophysical Journal, 2003, 85, 126-139.	0.2	79
102	Mechanisms for lateral turns in lamprey in response to descending unilateral commands: a modeling study. Biological Cybernetics, 2002, 86, 1-14.	0.6	17
103	Attractor Neural Networks with Hypercolumns. Lecture Notes in Computer Science, 2002, , 192-197.	1.0	2
104	Modeling of substance P and 5-HT induced synaptic plasticity in the lamprey spinal CPG: consequences for network pattern generation. Journal of Computational Neuroscience, 2001, 11, 183-200.	0.6	27
105	Biological evaluation of a Hebbianâ€"Bayesian learning rule. Neurocomputing, 2001, 38-40, 433-438.	3.5	11
106	Spike and Burst Synchronization in a Detailed Cortical Network Model with I-F Neurons. Lecture Notes in Computer Science, 2001, , 1095-1102.	1.0	0
107	Bayesian neural networks with confidence estimations applied to data mining. Computational Statistics and Data Analysis, 2000, 34, 473-493.	0.7	104
108	Glucose-induced [Ca2+]i abnormalities in human pancreatic islets: important role of overstimulation. Diabetes, 2000, 49, 1840-1848.	0.3	63

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109	On Forgetful Attractor Network Memories. Perspectives in Neural Computing, 2000, , 54-62.	0.1	0
110	Neural mechanisms potentially contributing to the intersegmental phase lag in lamprey. Biological Cybernetics, 1999, 81, 299-315.	0.6	48
111	Neural mechanisms potentially contributing to the intersegmental phase lag in lamprey. Biological Cybernetics, 1999, 81, 317-330.	0.6	43
112	Control of burst proportion and frequency range by drive-dependent modulation of adaptation. Neurocomputing, 1999, 26-27, 185-191.	3.5	1
113	See – A framework for simulation of biologically detailed and artificial neural networks and systems. Neurocomputing, 1999, 26-27, 997-1003.	3.5	2
114	Modulation of burst frequency by calcium-dependent potassium channels in the lamprey locomotor system: dependence of the activity level. Journal of Computational Neuroscience, 1998, 5, 121-140.	0.6	30
115	Modeling of the Spinal Neuronal Circuitry Underlying Locomotion in a Lower Vertebratea. Annals of the New York Academy of Sciences, 1998, 860, 239-249.	1.8	23
116	Activity-dependent modulation of adaptation produces a constant burst proportion in a model of the lamprey spinal locomotor generator. Biological Cybernetics, 1998, 79, 1-14.	0.6	17
117	A Bayesian neural network method for adverse drug reaction signal generation. European Journal of Clinical Pharmacology, 1998, 54, 315-321.	0.8	837
118	Intrinsic function of a neuronal network – a vertebrate central pattern generator. Brain Research Reviews, 1998, 26, 184-197.	9.1	217
119	Self-Orienting with On-Line Learning of Environmental Features. Adaptive Behavior, 1998, 6, 535-566.	1.1	5
120	A model of cortical associative memory based on a horizontal network of connected columns. Network: Computation in Neural Systems, 1998, 9, 235-264.	2.2	51
121	Local Spinal Modulation of the KCA Channel Underlying Slow Adaptation in a Model of The Lamprey CPG. , 1998, , 429-434.		2
122	Activity Dependent Modulation of the Burst Rate by Calcium-Dependent Potassium Channels in Lamprey. , 1998, , 549-554.		3
123	Significance of Modulated Adaptation for Rhythm Generation and Inter-Segmental Co-Ordination in Lamprey. , 1998, , 561-565.		2
124	Modulation of Oscillatory Properties, Burst Rates, Intersegmental Coordination By Gabab- Receptor Activation in the Lamprey. , 1998, , 543-548.		0
125	Production of Phase Lag in Chains of Neural Networks Oscillating Through an Escape Mechanism. , 1998, , 65-70.		1
126	Low-Voltage-Activated Calcium Channels in the Lamprey Locomotor Network: Simulation and Experiment. Journal of Neurophysiology, 1997, 77, 1795-1812.	0.9	53

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127	Intersegmental coordination in the lamprey: simulations using a network model without segmental boundaries. Biological Cybernetics, 1997, 76, 1-9.	0.6	55
128	A HIGHER ORDER BAYESIAN NEURAL NETWORK WITH SPIKING UNITS. International Journal of Neural Systems, 1996, 07, 115-128.	3.2	52
129	Distributed cell assemblies and detailed cell models. Behavioral and Brain Sciences, 1995, 18, 637-638.	0.4	0
130	Low spiking rates in a population of mutually exciting pyramidal cells. Network: Computation in Neural Systems, 1995, 6, 271-288.	2.2	38
131	The Neural Control of Fish Swimming Studied Through Numerical Simulations. Adaptive Behavior, 1995, 3, 363-384.	1.1	52
132	Simulations of Intersegmental Coordination during Swimming in the Lamprey using a Continuous Network Model. , 1995, , 353-358.		1
133	Neuronal network models of motor generation and control. Current Opinion in Neurobiology, 1994, 4, 903-908.	2.0	38
134	A FLEXIBLE AND FAULT TOLERANT QUERY-REPLY SYSTEM BASED ON A BAYESIAN NEURAL NETWORK. International Journal of Neural Systems, 1993, 04, 257-267.	3.2	3
135	Neuronal Network Generating Locomotor Behavior in Lamprey: Circuitry, Transmitters, Membrane Properties, and Simulation. Annual Review of Neuroscience, 1991, 14, 169-199.	5.0	432
136	A ONE-LAYER FEEDBACK ARTIFICIAL NEURAL NETWORK WITH A BAYESIAN LEARNING RULE. International Journal of Neural Systems, 1989, 01, 77-87.	3.2	72
137	Reliability and Speed of Recall in an Associative Network. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1985, PAMI-7, 490-498.	9.7	29
138	Low spiking rates in a population of mutually exciting pyramidal cells. , 0, .		12
139	A model of cortical associative memory based on a horizontal network of connected columns. , 0, .		35