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	A Bayesian neural network method for adverse drug reaction signal generation. European Journal of Clinical Pharmacology, 1998, 54, 315-321.	0.8	837
2	Simulation of networks of spiking neurons: A review of tools and strategies. Journal of Computational Neuroscience, 2007, 23, 349-398.	0.6	639
3	Neurocognitive Architecture of Working Memory. Neuron, 2015, 88, 33-46.	3.8	494
4	Neuronal Network Generating Locomotor Behavior in Lamprey: Circuitry, Transmitters, Membrane Properties, and Simulation. Annual Review of Neuroscience, 1991, 14, 169-199.	5.0	432
5	Computing the Local Field Potential (LFP) from Integrate-and-Fire Network Models. PLoS Computational Biology, 2015, 11, e1004584.	1.5	391
6	The cortex as a central pattern generator. Nature Reviews Neuroscience, 2005, 6, 477-483.	4.9	306
7	Intrinsic function of a neuronal network â€" a vertebrate central pattern generator. Brain Research Reviews, 1998, 26, 184-197.	9.1	217
8	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
9	Bistable, Irregular Firing and Population Oscillations in a Modular Attractor Memory Network. PLoS Computational Biology, 2010, 6, e1000803.	1.5	149
10	Associative memory models: from the cell-assembly theory to biophysically detailed cortex simulations. Trends in Neurosciences, 2009, 32, 178-186.	4.2	136
11	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
12	Bayesian neural networks with confidence estimations applied to data mining. Computational Statistics and Data Analysis, 2000, 34, 473-493.	0.7	104
13	Towards cortex sized artificial neural systems. Neural Networks, 2007, 20, 48-61.	3.3	101
14	A Spiking Working Memory Model Based on Hebbian Short-Term Potentiation. Journal of Neuroscience, 2017, 37, 83-96.	1.7	88
15	A Model of Phosphofructokinase and Glycolytic Oscillations in the Pancreatic Î²-cell. Biophysical Journal, 2003, 85, 126-139.	0.2	79
16	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
17	A ONE-LAYER FEEDBACK ARTIFICIAL NEURAL NETWORK WITH A BAYESIAN LEARNING RULE. International Journal of Neural Systems, 1989, 01, 77-87.	3.2	72
18	A comprehensive workflow for general-purpose neural modeling with highly configurable neuromorphic hardware systems. Biological Cybernetics, 2011, 104, 263-296.	0.6	72

#	ARTICLE	IF	CITATIONS
19	Attractor dynamics in a modular network model of neocortex. Network: Computation in Neural Systems, 2006, 17, 253-276.	2.2	69
20	Large-scale modeling â€" a tool for conquering the complexity of the brain. Frontiers in Neuroinformatics, 2008, 2, 1.	1.3	65
21	Glucose-induced [Ca2+]i abnormalities in human pancreatic islets: important role of overstimulation. Diabetes, 2000, 49, 1840-1848.	0.3	63
22	Modeling a vertebrate motor system: pattern generation, steering and control of body orientation. Progress in Brain Research, 2007, 165, 221-234.	0.9	60
23	Intersegmental coordination in the lamprey: simulations using a network model without segmental boundaries. Biological Cybernetics, 1997, 76, 1-9.	0.6	55
24	Low-Voltage-Activated Calcium Channels in the Lamprey Locomotor Network: Simulation and Experiment. Journal of Neurophysiology, 1997, 77, 1795-1812.	0.9	53
25	The Neural Control of Fish Swimming Studied Through Numerical Simulations. Adaptive Behavior, 1995, 3, 363-384.	1.1	52
26	A HIGHER ORDER BAYESIAN NEURAL NETWORK WITH SPIKING UNITS. International Journal of Neural Systems, 1996, 07, 115-128.	3.2	52
27	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
28	Neural mechanisms potentially contributing to the intersegmental phase lag in lamprey. Biological Cybernetics, 1999, 81, 299-315.	0.6	48
29	Neural mechanisms potentially contributing to the intersegmental phase lag in lamprey. Biological Cybernetics, 1999, 81, 317-330.	0.6	43
30	Characterization and Compensation of Network-Level Anomalies in Mixed-Signal Neuromorphic Modeling Platforms. PLoS ONE, 2014, 9, e108590.	1.1	42
31	Spike-Based Bayesian-Hebbian Learning of Temporal Sequences. PLoS Computational Biology, 2016, 12, e1004954.	1.5	41
32	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
33	Neuronal network models of motor generation and control. Current Opinion in Neurobiology, 1994, 4, 903-908.	2.0	38
34	Low spiking rates in a population of mutually exciting pyramidal cells. Network: Computation in Neural Systems, 1995, 6, 271-288.	2.2	38
35	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
36	A model of cortical associative memory based on a horizontal network of connected columns. , 0, .		35

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37	Synaptic and nonsynaptic plasticity approximating probabilistic inference. Frontiers in Synaptic Neuroscience, 2014, 6, 8.	1.3	34
38	Biophysically detailed modelling of microcircuits and beyond. Trends in Neurosciences, 2005, 28, 562-569.	4.2	33
39	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
40	Reactivation in Working Memory: An Attractor Network Model of Free Recall. PLoS ONE, 2013, 8, e73776.	1.1	30
41	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
42	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
43	The language of smell: Connecting linguistic and psychophysical properties of odor descriptors. Cognition, 2018, 178, 37-49.	1.1	29
44	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
45	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
46	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
47	An Indexing Theory for Working Memory Based on Fast Hebbian Plasticity. ENeuro, 2020, 7, ENEURO.0374-19.2020.	0.9	23
48	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
49	A Cortical Attractor Network with Martinotti Cells Driven by Facilitating Synapses. PLoS ONE, 2012, 7, e30752.	1.1	20
50	Imposing Biological Constraints onto an Abstract Neocortical Attractor Network Model. Neural Computation, 2007, 19, 1871-1896.	1.3	18
51	Virtues, Pitfalls, and Methodology of Neuronal Network Modeling and Simulations on Supercomputers. , 2012, , 283-315.		18
52	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
53	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
54	Mechanisms for lateral turns in lamprey in response to descending unilateral commands: a modeling study. Biological Cybernetics, 2002, 86, 1-14.	0.6	17

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55	Cell assembly dynamics in detailed and abstract attractor models of cortical associative memory. Theory in Biosciences, 2003, 122, 19-36.	0.6	17
56	Roles of Ionic Currents in Lamprey CPG Neurons: A Modeling Study. Journal of Neurophysiology, 2007, 97, 2696-2711.	0.9	17
57	A hemicord locomotor network of excitatory interneurons: a simulation study. Biological Cybernetics, 2007, 96, 229-243.	0.6	16
58	Large-Scale Simulations of Plastic Neural Networks on Neuromorphic Hardware. Frontiers in Neuroanatomy, 2016, 10, 37.	0.9	16
59	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
60	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
61	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
62	A modular attractor associative memory with patchy connectivity and weight pruning. Network: Computation in Neural Systems, 2013, 24, 129-150.	2.2	13
63	Anisotropic connectivity implements motion-based prediction in a spiking neural network. Frontiers in Computational Neuroscience, 2013, 7, 112.	1.2	13
64	Reducing the computational footprint for real-time BCPNN learning. Frontiers in Neuroscience, 2015, 9, 2.	1.4	13
65	Sequence memory with dynamical synapses. Neurocomputing, 2004, 58-60, 271-278.	3.5	12
66	Low spiking rates in a population of mutually exciting pyramidal cells. , 0, .		12
67	Biological evaluation of a Hebbianâ€"Bayesian learning rule. Neurocomputing, 2001, 38-40, 433-438.	3.5	11
68	Attractor neural networks with patchy connectivity. Neurocomputing, 2006, 69, 627-633.	3.5	11
69	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
70	Variability of spike firing during theta-coupled replay of memories in a simulated attractor network. Brain Research, 2012, 1434, 152-161.	1.1	11
71	A mathematical model of the Pyrosequencing reaction system. Biophysical Chemistry, 2004, 110, 129-145.	1.5	10
72	Is Attentional Blink a Byproduct of Neocortical Attractors?. Frontiers in Computational Neuroscience, 2011, 5, 13.	1.2	10

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73	A scalable custom simulation machine for the Bayesian Confidence Propagation Neural Network model of the brain. , 2014, , .		9
74	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
75	Modeling the response of a population of olfactory receptor neurons to an odorant. Journal of Computational Neuroscience, 2009, 27, 337-355.	0.6	8
76	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
77	From ANN to Biomimetic Information Processing. Studies in Computational Intelligence, 2009, , 33-43.	0.7	7
78	Implementing plastic weights in neural networks using low precision arithmetic. Neurocomputing, 2009, 72, 968-972.	3.5	6
79	Spiking brain models: Computation, memory and communication constraints for custom hardware implementation. , 2014, , .		6
80	A Spiking Working Memory Model Based on Hebbian Short-Term Potentiation. Journal of Neuroscience, 2017, 37, 83-96.	1.7	6
81	Probabilistic associative learning suffices for learning the temporal structure of multiple sequences. PLoS ONE, 2019, 14, e0220161.	1.1	6
82	Introducing double bouquet cells into a modular cortical associative memory model. Journal of Computational Neuroscience, 2019, 47, 223-230.	0.6	6
83	Learning representations in Bayesian Confidence Propagation neural networks. , 2020, , .		6
84	A Memristor Model with Concise Window Function for Spiking Brain-Inspired Computation. , 2021, , .		6
85	Self-Orienting with On-Line Learning of Environmental Features. Adaptive Behavior, 1998, 6, 535-566.	1.1	5
86	Map Formation in the Olfactory Bulb by Axon Guidance of Olfactory Neurons. Frontiers in Systems Neuroscience, 2011, 5, 84.	1.2	5
87	Pedestrian simulation as multi-objective reinforcement learning. , 2018, , .		5
88	Attractor Memory with Self-organizing Input. Lecture Notes in Computer Science, 2006, , 265-280.	1.0	5
89	Scaling effects in a model of the olfactory bulb. Neurocomputing, 2007, 70, 1802-1807.	3.5	4
90	Optimizing BCPNN Learning Rule for Memory Access. Frontiers in Neuroscience, 2020, 14, 878.	1.4	4

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91	Brain-Like Approaches to Unsupervised Learning of Hidden Representations - A Comparative Study. Lecture Notes in Computer Science, 2021, , 162-173.	1.0	4
92	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
93	Towards Cortex Sized Artificial Nervous Systems. Lecture Notes in Computer Science, 2004, , 959-966.	1.0	3
94	Attractor dynamics in a modular network model of the cerebral cortex. Neurocomputing, 2006, 69, 1155-1159.	3.5	3
95	CLUSTERING OF STORED MEMORIES IN AN ATTRACTOR NETWORK WITH LOCAL COMPETITION. International Journal of Neural Systems, 2006, 16, 393-403.	3.2	3
96	A Bulb Model Implementing Fuzzy Coding of Odor Concentration. , 2009, , .		3
97	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
98	Attractor Hypothesis of Associative Cortex: Insights from a Biophysically Detailed Network Model. , 2013, , .		3
99	Signature of an anticipatory response in area VI as modeled by a probabilistic model and a spiking neural network. , 2014, , .		3
100	Odor recognition in an attractor network model of the mammalian olfactory cortex. , 2017, , .		3
101	Activity Dependent Modulation of the Burst Rate by Calcium-Dependent Potassium Channels in Lamprey. , 1998, , 549-554.		3
102	Mapping the BCPNN Learning Rule to a Memristor Model. Frontiers in Neuroscience, 2021, 15, 750458.	1.4	3
103	See â€" A framework for simulation of biologically detailed and artificial neural networks and systems. Neurocomputing, 1999, 26-27, 997-1003.	3.5	2
104	A FPGA-based Hardware Accelerator for Bayesian Confidence Propagation Neural Network. , 2020, , .		2
105	StreamBrain. , 2021, , .		2
106	Attractor Neural Networks with Hypercolumns. Lecture Notes in Computer Science, 2002, , 192-197.	1.0	2
107	Local Spinal Modulation of the KCA Channel Underlying Slow Adaptation in a Model of The Lamprey CPG. , 1998, , 429-434.		2
108	Significance of Modulated Adaptation for Rhythm Generation and Inter-Segmental Co-Ordination in Lamprey. , 1998, , 561-565.		2

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109	Control of burst proportion and frequency range by drive-dependent modulation of adaptation. Neurocomputing, 1999, 26-27, 185-191.	3.5	1
110	Role of A-current in lamprey locomotor network neurons. Neurocomputing, 2003, 52-54, 295-300.	3.5	1
111	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
112	A model of the summation pools within the layer 4 (area 17). Neurocomputing, 2005, 65-66, 167-172.	3.5	1
113	A hybrid model of the primary visual cortex. BMC Neuroscience, 2011, 12, .	0.8	1
114	Scaling of a biophysical neocortical attractor model using Parallel NEURON on the Blue Gene /P. BMC Neuroscience, 2011, 12, .	0.8	1
115	Probabilistic computation underlying sequence learning in a spiking attractor memory network. BMC Neuroscience, 2013, 14, .	0.8	1
116	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
117	Analysis of free recall dynamics of an abstract working memory model. , 2020, , .		1
118	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
119	Simulations of Intersegmental Coordination during Swimming in the Lamprey using a Continuous Network Model. , 1995, , 353-358.		1
120	Production of Phase Lag in Chains of Neural Networks Oscillating Through an Escape Mechanism. , 1998, , 65-70.		1
121	Traces of Semantization, from Episodic to Semantic Memory in a Spiking Cortical Network Model. ENeuro, 2022, 9, ENEURO.0062-22.2022.	0.9	1
122	Distributed cell assemblies and detailed cell models. Behavioral and Brain Sciences, 1995, 18, 637-638.	0.4	0
123	The impact of the distribution of isoforms on CaMKII activation. Neurocomputing, 2006, 69, 1010-1013.	3.5	0
124	Modelling the population of olfactory receptor neurons. BMC Neuroscience, 2007, 8, .	0.8	0
125	Simulating attentional blink with a neocortical attractor model. BMC Neuroscience, 2009, 10, .	0.8	0
126	Perceptual and memory functions in a cortex-inspired attractor network model. BMC Neuroscience, 2011, 12, .	0.8	0

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127	A cortical attractor network with dynamic synapses. BMC Neuroscience, 2011, 12, .	0.8	0
128	Odor segmentation and identification in an abstract large-scale model of the mammalian olfactory system. BMC Neuroscience, 2011, 12, .	0.8	0
129	An abstract model of the basal ganglia, reward learning and action selection. BMC Neuroscience, 2011, 12, .	0.8	0
130	A neural model of human fear pathways based on anatomical and neuroimaging data. BMC Neuroscience, 2011, 12, .	0.8	0
131	Nexa: A scalable neural simulator with integrated analysis. Network: Computation in Neural Systems, 2012, 23, 254-271.	2.2	0
132	Approximate computation of post-synaptic spikes reduces bandwidth to synaptic storage in a model of cortex. , 2021, , .		0
133	On Forgetful Attractor Network Memories. Perspectives in Neural Computing, 2000, , 54-62.	0.1	0
134	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
135	Modulation of Oscillatory Properties, Burst Rates, Intersegmental Coordination By Gabab- Receptor Activation in the Lamprey. , 1998, , 543-548.		0
136	Sequence Disambiguation with Synaptic Traces in Associative Neural Networks. Lecture Notes in Computer Science, 2019, , 793-805.	1.0	0
137	Title is missing!. , 2019, 14, e0220161.		0
138	Title is missing!. , 2019, 14, e0220161.		0
139	Title is missing!. , 2019, 14, e0220161.		0