

Benjamin Schrauwen

List of Publications by Year in descending order

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Version: 2024-02-01

59
papers

3,552
citations

218677

26
h-index

243625

44
g-index

61
all docs

61
docs citations

61
times ranked

2845
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental demonstration of reservoir computing on a silicon photonics chip. Nature Communications, 2014, 5, 3541.	12.8	545
2	Reservoir Computing Trends. KI - Kunstliche Intelligenz, 2012, 26, 365-371.	3.2	274
3	Information Processing Capacity of Dynamical Systems. Scientific Reports, 2012, 2, 514.	3.3	242
4	Improving reservoirs using intrinsic plasticity. Neurocomputing, 2008, 71, 1159-1171.	5.9	229
5	End-to-end learning for music audio. , 2014, , .		194
6	Design and control of compliant tensegrity robots through simulation and hardware validation. Journal of the Royal Society Interface, 2014, 11, 20140520.	3.4	192
7	Toward optical signal processing using Photonic Reservoir Computing. Optics Express, 2008, 16, 11182.	3.4	190
8	Parallel Reservoir Computing Using Optical Amplifiers. IEEE Transactions on Neural Networks, 2011, 22, 1469-1481.	4.2	155
9	Connectivity, Dynamics, and Memory in Reservoir Computing with Binary and Analog Neurons. Neural Computation, 2010, 22, 1272-1311.	2.2	138
10	The Introduction of Time-Scales in Reservoir Computing, Applied to Isolated Digits Recognition. Lecture Notes in Computer Science, 2007, , 471-479.	1.3	130
11	Compact hardware liquid state machines on FPGA for real-time speech recognition. Neural Networks, 2008, 21, 511-523.	5.9	107
12	Cascadable excitability in microrings. Optics Express, 2012, 20, 20292.	3.4	107
13	Integrating dynamic stopping, transfer learning and language models in an adaptive zero-training ERP speller. Journal of Neural Engineering, 2014, 11, 035005.	3.5	75
14	Time-domain and frequency-domain modeling of nonlinear optical components at the circuit-level using a node-based approach. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 896.	2.1	69
15	Recurrent Kernel Machines: Computing with Infinite Echo State Networks. Neural Computation, 2012, 24, 104-133.	2.2	64
16	True Zero-Training Brain-Computer Interfacing “ An Online Study. PLoS ONE, 2014, 9, e102504.	2.5	61
17	Memory versus non-linearity in reservoirs. , 2010, , .		56
18	A Bayesian Model for Exploiting Application Constraints to Enable Unsupervised Training of a P300-based BCI. PLoS ONE, 2012, 7, e33758.	2.5	55

#	ARTICLE	IF	CITATIONS
19	On Learning Navigation Behaviors for Small Mobile Robots With Reservoir Computing Architectures. IEEE Transactions on Neural Networks and Learning Systems, 2015, 26, 763-780.	11.3	53
20	Memory in linear recurrent neural networks in continuous time. Neural Networks, 2010, 23, 341-355.	5.9	46
21	Nanophotonic Reservoir Computing With Photonic Crystal Cavities to Generate Periodic Patterns. IEEE Transactions on Neural Networks and Learning Systems, 2014, 25, 344-355.	11.3	42
22	Memristor Models for Machine Learning. Neural Computation, 2015, 27, 725-747.	2.2	39
23	Generative Modeling of Autonomous Robots and their Environments using Reservoir Computing. Neural Processing Letters, 2007, 26, 233-249.	3.2	35
24	Oncilla Robot: A Versatile Open-Source Quadruped Research Robot With Compliant Pantograph Legs. Frontiers in Robotics and AI, 2018, 5, 67.	3.2	34
25	Automatic detection of epileptic seizures on the intra-cranial electroencephalogram of rats using reservoir computing. Artificial Intelligence in Medicine, 2011, 53, 215-223.	6.5	33
26	A Unified Probabilistic Approach to Improve Spelling in an Event-Related Potential-Based Brain-Computer Interface. IEEE Transactions on Biomedical Engineering, 2013, 60, 2696-2705.	4.2	31
27	Real-time detection of epileptic seizures in animal models using reservoir computing. Epilepsy Research, 2013, 103, 124-134.	1.6	30
28	On the Quantification of Dynamics in Reservoir Computing. Lecture Notes in Computer Science, 2009, , 985-994.	1.3	28
29	Band-pass Reservoir Computing. , 2008, , .		24
30	Accelerating Event-Driven Simulation of Spiking Neurons with Multiple Synaptic Time Constants. Neural Computation, 2009, 21, 1068-1099.	2.2	22
31	Design of a Central Pattern Generator Using Reservoir Computing for Learning Human Motion. , 2009, , .		21
32	Time series classification for the prediction of dialysis in critically ill patients using echo statenetworks. Engineering Applications of Artificial Intelligence, 2013, 26, 984-996.	8.1	19
33	The spectral radius remains a valid indicator of the Echo state property for large reservoirs. , 2013, , .		18
34	Mobile robot control in the road sign problem using Reservoir Computing networks. , 2008, , .		16
35	Automated Design of Complex Dynamic Systems. PLoS ONE, 2014, 9, e86696.	2.5	16
36	Terrain Classification for a Quadruped Robot. , 2013, , .		14

#	ARTICLE	IF	CITATIONS
37	Supervised learning of internal models for autonomous goal-oriented robot navigation using Reservoir Computing. , 2010, , .		12
38	Optimized Parameter Search for Large Datasets of the Regularization Parameter and Feature Selection for Ridge Regression. Neural Processing Letters, 2013, 38, 403-416.	3.2	12
39	Frequency modulation of large oscillatory neural networks. Biological Cybernetics, 2014, 108, 145-157.	1.3	12
40	Compact hardware for real-time speech recognition using a Liquid State Machine. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	11
41	Learning slow features with reservoir computing for biologically-inspired robot localization. Neural Networks, 2012, 25, 178-190.	5.9	9
42	Event Detection and Localization in Mobile Robot Navigation Using Reservoir Computing. Lecture Notes in Computer Science, 2007, , 660-669.	1.3	9
43	Dynamic Stopping Improves the Speed and Accuracy of a P300 Speller. Lecture Notes in Computer Science, 2012, , 661-668.	1.3	9
44	Modeling multiple autonomous robot behaviors and behavior switching with a single reservoir computing network. Conference Proceedings IEEE International Conference on Systems, Man, and Cybernetics, 2008, , .	0.0	8
45	Modular reservoir computing networks for imitation learning of multiple robot behaviors. , 2009, , .		8
46	Realization of a passive compliant robot dog. , 2010, , .		8
47	Photonic reservoir computing and information processing with coupled semiconductor optical amplifiers. , 2011, , .		8
48	Fast and Exact Simulation Methods Applied on a Broad Range of Neuron Models. Neural Computation, 2010, 22, 1468-1472.	2.2	6
49	Toward Unified Hybrid Simulation Techniques for Spiking Neural Networks. Neural Computation, 2014, 26, 1055-1079.	2.2	6
50	Imitation Learning of an Intelligent Navigation System for Mobile Robots Using Reservoir Computing. Brazilian Symposium on Neural Networks, Proceedings of the, 2008, , .	0.0	5
51	Comparing trotting and turning strategies on the quadrupedal oncilla robot. , 2013, , .		5
52	Photonic reservoir computing: A new approach to optical information processing. , 2010, , .		4
53	Event management for large scale event-driven digital hardware spiking neural networks. Neural Networks, 2013, 45, 83-93.	5.9	3
54	Towards autonomous self-localization of small mobile robots using reservoir computing and slow feature analysis. , 2009, , .		2

#	ARTICLE	IF	CITATIONS
55	Accelerating Event Based Simulation for Multi-synapse Spiking Neural Networks. Lecture Notes in Computer Science, 2006, , 760-769.	1.3	2
56	Advances in photonic reservoir computing on an integrated platform. , 2011, , .		1
57	Towards a Neural Hierarchy of Time Scales for Motor Control. Lecture Notes in Computer Science, 2012, , 146-155.	1.3	1
58	Optical signal processing with a network of semiconductor optical amplifiers in the context of photonic reservoir computing. Proceedings of SPIE, 2011, , .	0.8	0
59	Recent advances in optical Reservoir Computing. , 2013, , .		0