Laurenz Wiskott

List of Publications by Year
in descending order

80	6,218	185998 28	106150 65
papers	citations	h-index	g-index

86	86	86	4341
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Latent Representation Prediction Networks. International Journal of Pattern Recognition and Artificial Intelligence, 2022, 36, .	0.7	0
2	Slow Feature Analysis. , 2022, , 3142-3143.		0
3	Context-dependent extinction learning emerging from raw sensory inputs: a reinforcement learning approach. Scientific Reports, 2021, 11, 2713.	1.6	13
4	Improved graph-based SFA: information preservation complements the slowness principle. Machine Learning, 2020, 109, 999-1037.	3.4	5
5	Cover Image, Volume 30, Issue 6. Hippocampus, 2020, 30, C1.	0.9	0
6	Improving sensory representations using episodic memory. Hippocampus, 2020, 30, 638-656.	0.9	1
7	Laplacian Matrix for Dimensionality Reduction and Clustering. Lecture Notes in Business Information Processing, 2020, , 93-119.	0.8	3
8	Learning Gradient-Based ICA by Neurally Estimating Mutual Information. Lecture Notes in Computer Science, 2019, , 182-187.	1.0	4
9	Slowness as a Proxy for Temporal Predictability: An Empirical Comparison. Neural Computation, 2018, 30, 1151-1179.	1.3	5
10	The Interaction between Semantic Representation and Episodic Memory. Neural Computation, 2018, 30, 293-332.	1.3	10
11	Storage fidelity for sequence memory in the hippocampal circuit. PLoS ONE, 2018, 13, e0204685.	1.1	9
12	Graph-based predictable feature analysis. Machine Learning, 2017, 106, 1359-1380.	3.4	10
13	Experience-Dependency of Reliance on Local Visual and Idiothetic Cues for Spatial Representations Created in the Absence of Distal Information. Frontiers in Behavioral Neuroscience, 2017, 11, 92.	1.0	14
14	Gaussian-binary restricted Boltzmann machines for modeling natural image statistics. PLoS ONE, 2017, 12, e0171015.	1.1	20
15	Modeling place field activity with hierarchical slow feature analysis. Frontiers in Computational Neuroscience, 2015, 9, 51.	1.2	11
16	Predictable Feature Analysis. , 2015, , .		12
17	Memory Storage Fidelity in the Hippocampal Circuit: The Role of Subregions and Input Statistics. PLoS Computational Biology, 2015, 11, e1004250.	1.5	21
18	Slow Feature Analysis. , 2015, , 2715-2717.		0

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19	Slow Feature Analysis on Retinal Waves Leads to V1 Complex Cells. PLoS Computational Biology, 2014, 10, e1003564.	1.5	11
20	Spatial representations of place cells in darkness are supported by path integration and border information. Frontiers in Behavioral Neuroscience, 2014, 8, 222.	1.0	55
21	Elastic Bunch Graph Matching. Scholarpedia Journal, 2014, 9, 10587.	0.3	11
22	Slow Feature Analysis. , 2014, , 1-2.		0
23	Deep Hierarchies in the Primate Visual Cortex: What Can We Learn for Computer Vision?. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1847-1871.	9.7	285
24	Multivariate Slow Feature Analysis and Decorrelation Filtering for Blind Source Separation. IEEE Transactions on Image Processing, 2013, 22, 2737-2750.	6.0	12
25	Building extensible frameworks for data processing: The case of MDP, Modular toolkit for Data Processing. Journal of Computational Science, 2013, 4, 345-351.	1.5	4
26	A computational model for preplay in the hippocampus. Frontiers in Computational Neuroscience, 2013, 7, 161.	1.2	52
27	RatLab: an easy to use tool for place code simulations. Frontiers in Computational Neuroscience, 2013, 7, 104.	1.2	9
28	Slow Feature Analysis: Perspectives for Technical Applications of a Versatile Learning Algorithm. KI - Kunstliche Intelligenz, 2012, 26, 341-348.	2.2	12
29	Invariant Object Recognition and Pose Estimation with Slow Feature Analysis. Neural Computation, 2011, 23, 2289-2323.	1.3	46
30	A Theory of Slow Feature Analysis for Transformation-Based Input Signals with an Application to Complex Cells. Neural Computation, 2011, 23, 303-335.	1.3	7
31	Slow feature analysis and decorrelation filtering for separating correlated sources. , 2011, , .		2
32	Heuristic Evaluation of Expansions for Non-linear Hierarchical Slow Feature Analysis. , 2011, , .		3
33	The Role of Additive Neurogenesis and Synaptic Plasticity in a Hippocampal Memory Model with Grid-Cell Like Input. PLoS Computational Biology, 2011, 7, e1001063.	1.5	41
34	Slow feature analysis. Scholarpedia Journal, 2011, 6, 5282.	0.3	35
35	Reinforcement Learning on Slow Features of High-Dimensional Input Streams. PLoS Computational Biology, 2010, 6, e1000894.	1.5	53
36	Gender and Age Estimation from Synthetic Face Images. Lecture Notes in Computer Science, 2010, , 240-249.	1.0	0

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37	Additive neurogenesis as a strategy for avoiding interference in a sparsely-coding dentate gyrus. Network: Computation in Neural Systems, 2009, 20, 137-161.	2.2	44
38	Learning complex cell units from simulated prenatal retinal waves with slow feature analysis. BMC Neuroscience, 2009, 10, .	0.8	1
39	Visualization of higher-level receptive fields in a hierarchical model of the visual system. BMC Neuroscience, 2009, 10, .	0.8	0
40	Quantitative modeling of the dynamics of adult hippocampal neurogenesis in mice. BMC Neuroscience, 2009, 10, .	0.8	0
41	Reinforcement learning on complex visual stimuli. BMC Neuroscience, 2009, 10, .	0.8	0
42	Modular toolkit for Data Processing (MDP): a Python data processing framework. Frontiers in Neuroinformatics, 2008, 2, 8.	1.3	62
43	Invariant Object Recognition with Slow Feature Analysis. Lecture Notes in Computer Science, 2008, , 961-970.	1.0	24
44	Slowness and Sparseness Lead to Place, Head-Direction, and Spatial-View Cells. PLoS Computational Biology, 2007, 3, e166.	1.5	153
45	Slowness: An Objective for Spike-Timingâ€“Dependent Plasticity?. PLoS Computational Biology, 2007, 3, e112.	1.5	65
46	Independent Slow Feature Analysis and Nonlinear Blind Source Separation. Neural Computation, 2007, 19, 994-1021.	1.3	45
47	Analysis and interpretation of quadratic models of receptive fields. Nature Protocols, 2007, 2, 400-407.	5.5	6
48	Spike-timing-dependent plasticity and temporal input statistics. BMC Neuroscience, 2007, 8, .	0.8	0
49	From grids to places. Journal of Computational Neuroscience, 2007, 22, 297-299.	0.6	59
50	On the Analysis and Interpretation of Inhomogeneous Quadratic Forms as Receptive Fields. Neural Computation, 2006, 18, 1868-1895.	1.3	30
51	A functional hypothesis for adult hippocampal neurogenesis: Avoidance of catastrophic interference in the dentate gyrus. Hippocampus, 2006, 16, 329-343.	0.9	259
52	What Is the Relation Between Slow Feature Analysis and Independent Component Analysis?. Neural Computation, 2006, 18, 2495-2508.	1.3	60
53	How Does Our Visual System Achieve Shift and Size Invariance?. , 2006, , 322-340.		19
54	Slow feature analysis yields a rich repertoire of complex cell properties. Journal of Vision, 2005, 5, 9-9.	0.1	185

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55	Functional significance of adult neurogenesis. Current Opinion in Neurobiology, 2004, 14, 186-191.	2.0	576
56	CuBICA: Independent Component Analysis by Simultaneous Third- and Fourth-Order Cumulant Diagonalization. IEEE Transactions on Signal Processing, 2004, 52, 1250-1256.	3.2	64
57	What is the Functional Role of New Neurons in the Adult Dentate Gyrus?. Research and Perspectives in Neurosciences, 2004, , 57-65.	0.4	3
58	Is slowness a learning principle of the visual cortex?. Zoology, 2003, 106, 373-382.	0.6	8
59	Slow Feature Analysis: A Theoretical Analysis of Optimal Free Responses. Neural Computation, 2003, 15, 2147-2177.	1.3	55
60	Slow Feature Analysis: Unsupervised Learning of Invariances. Neural Computation, 2002, 14, 715-770.	1.3	926
61	Applying Slow Feature Analysis to Image Sequences Yields a Rich Repertoire of Complex Cell Properties. Lecture Notes in Computer Science, 2002, , 81-86.	1.0	15
62	An Improved Cumulant Based Method for Independent Component Analysis. Lecture Notes in Computer Science, 2002, , 1087-1093.	1.0	2
63	Segmentation from motion: combining Gabor- and Mallat-wavelets to overcome the aperture and correspondence problems. Pattern Recognition, 1999, 32, 1751-1766.	5.1	23
64	The role of topographical constraints in face recognition. Pattern Recognition Letters, 1999, 20, 89-96.	2.6	30
65	Learning invariance manifolds. Neurocomputing, 1999, 26-27, 925-932.	3.5	11
66	Objekterkennung in einem selbstorganisierenden neuronalen System. , 1999, , 169-188.		0
67	Constrained Optimization for Neural Map Formation: A Unifying Framework for Weight Growth and Normalization. Neural Computation, 1998, 10, 671-716.	1.3	29
68	Objective functions for neural map formation. Lecture Notes in Computer Science, 1997, , 243-248.	1.0	2
69	Face recognition by elastic bunch graph matching. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1997, 19, 775-779.	9.7	2,408
70	Phantom faces for face analysis. Pattern Recognition, 1997, 30, 837-846.	5.1	40
71	Face recognition by elastic bunch graph matching. Lecture Notes in Computer Science, 1997, , 456-463.	1.0	74
72	Phantom faces for face analysis. Lecture Notes in Computer Science, 1997, , 480-487.	1.0	9

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73	Segmentation from motion: Combining Gabor- and Mallat-wavelets to overcome aperture and correspondence problem. Lecture Notes in Computer Science, 1997, , 329-336.	1.0	2
74	Recognizing Faces by Dynamic Link Matching. NeuroImage, 1996, 4, S14-S18.	2.1	56
75	A NEURAL SYSTEM FOR THE RECOGNITION OF PARTIALLY OCCLUDED OBJECTS IN CLUTTERED SCENES: A PILOT STUDY. International Journal of Pattern Recognition and Artificial Intelligence, 1993, 07, 935-948.	0.7	38
76	The Photorefractive Effect in LiNbo3 at High Light Internsity. Physica Status Solidi A, 1991, 128, K41-K46.	1.7	19
77	An experimental multiprocessor system for distributed parallel computations. Microprocessing and Microprogramming, 1990, 26, 305-317.	0.3	0
78	Understanding Slow Feature Analysis: A Mathematical Framework. SSRN Electronic Journal, 0, , .	0.4	4
79	Self-organization of V1 Complex Cells Based On Slow Feature Analysis And Retinal Waves. Frontiers in Computational Neuroscience, 0, 4, .	1.2	0
80	Hierarchical Slow Feature Analysis and Top-Down Processes. Frontiers in Computational Neuroscience, 0, 4, .	1.2	0