

Christopher J Rozell

List of Publications by Year in descending order

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73
papers

1,853
citations

430874

18
h-index

302126

39
g-index

76
all docs

76
docs citations

76
times ranked

1984
citing authors

#	ARTICLE	IF	CITATIONS
1	Constrained brain volume in an efficient coding model explains the fraction of excitatory and inhibitory neurons in sensory cortices. PLoS Computational Biology, 2022, 18, e1009642.	3.2	13
2	Infrared Search and Track With Unbalanced Optimal Transport Dynamics Regularization. IEEE Geoscience and Remote Sensing Letters, 2021, 18, 2072-2076.	3.1	3
3	A 17.8-MS/s Compressed Sensing Radar Accelerator Using a Spiking Neural Network. IEEE Journal of Solid-State Circuits, 2021, 56, 834-843.	5.4	2
4	Harnessing the Manifold Structure of Cardiomechanical Signals for Physiological Monitoring During Hemorrhage. IEEE Transactions on Biomedical Engineering, 2021, 68, 1759-1767.	4.2	6
5	Towards Democratizing and Automating Online Conferences: Lessons from the Neuromatch Conferences. Trends in Cognitive Sciences, 2021, 25, 265-268.	7.8	13
6	Sparse Bayesian Learning With Dynamic Filtering for Inference of Time-Varying Sparse Signals. IEEE Transactions on Signal Processing, 2020, 68, 388-403.	5.3	14
7	The Picasso Algorithm for Bayesian Localization Via Paired Comparisons in a Union of Subspaces Model. , 2020, , .		0
8	Unbalanced Optimal Transport Regularization for Imaging Problems. IEEE Transactions on Computational Imaging, 2020, 6, 1219-1232.	4.4	8
9	Longitudinal Changes in Subcallosal Cingulate Local Field Potential Features in Patients Undergoing DBS for Treatment-Resistant Depression. Biological Psychiatry, 2020, 87, S193.	1.3	4
10	Efficient Tracking of Sparse Signals via an Earth Mover's Distance Dynamics Regularizer. IEEE Signal Processing Letters, 2020, 27, 1120-1124.	3.6	5
11	An unbiased, efficient sleep-wake detection algorithm for a population with sleep disorders: change point decoder. Sleep, 2020, 43, .	1.1	10
12	Active Ordinal Querying for Tuplewise Similarity Learning. Proceedings of the AAAI Conference on Artificial Intelligence, 2020, 34, 3332-3340.	4.9	0
13	Active Embedding Search via Noisy Paired Comparisons. , 2020, , .		3
14	Representing Closed Transformation Paths in Encoded Network Latent Space. Proceedings of the AAAI Conference on Artificial Intelligence, 2020, 34, 3666-3675.	4.9	1
15	Sparse Coding Using the Locally Competitive Algorithm on the TrueNorth Neurosynaptic System. Frontiers in Neuroscience, 2019, 13, 754.	2.8	9
16	PatcherBot: a single-cell electrophysiology robot for adherent cells and brain slices. Journal of Neural Engineering, 2019, 16, 046003.	3.5	32
17	Dynamical System Implementations of Sparse Bayesian Learning. , 2019, , .		0
18	Joint Estimation of Trajectory and Dynamics from Paired Comparisons. , 2019, , .		1

#	ARTICLE	IF	CITATIONS
19	Stabilizing embedology: Geometry-preserving delay-coordinate maps. Physical Review E, 2018, 97, 022222.	2.1	11
20	Cell Membrane Tracking in Living Brain Tissue Using Differential Interference Contrast Microscopy. IEEE Transactions on Image Processing, 2018, 27, 1847-1861.	9.8	16
21	Sparse Dynamic Filtering via Earth Mover's Distance Regularization. , 2018, , .		3
22	Sparse codes from memristor grids. Nature Nanotechnology, 2017, 12, 722-723.	31.5	8
23	Precision cell boundary tracking on DIC microscopy video for patch clamping. , 2017, , .		3
24	Earth-Mover's distance as a tracking regularizer. , 2017, , .		3
25	Cochlear implant speech intelligibility outcomes with structured and unstructured binary mask errors. Journal of the Acoustical Society of America, 2016, 139, 800-810.	1.1	8
26	Outcome measures based on classification performance fail to predict the intelligibility of binary-masked speech. Journal of the Acoustical Society of America, 2016, 139, 3033-3036.	1.1	6
27	Dynamic Filtering of Time-Varying Sparse Signals via ℓ_1 Minimization. IEEE Transactions on Signal Processing, 2016, 64, 5644-5656.	5.3	41
28	Modeling Inhibitory Interneurons in Efficient Sensory Coding Models. PLoS Computational Biology, 2015, 11, e1004353.	3.2	33
29	Structure in time-frequency binary masking errors and its impact on speech intelligibility. Journal of the Acoustical Society of America, 2015, 137, 2025-2035.	1.1	8
30	Discrete and Continuous-Time Soft-Thresholding for Dynamic Signal Recovery. IEEE Transactions on Signal Processing, 2015, 63, 3165-3176.	5.3	26
31	Electrical and Optical Activation of Mesoscale Neural Circuits with Implications for Coding. Journal of Neuroscience, 2015, 35, 15702-15715.	3.6	18
32	The restricted isometry property for random block diagonal matrices. Applied and Computational Harmonic Analysis, 2015, 38, 1-31.	2.2	42
33	OPTIMAL SPARSE APPROXIMATION WITH INTEGRATE AND FIRE NEURONS. International Journal of Neural Systems, 2014, 24, 1440001.	5.2	41
34	Short-Term Memory Capacity in Networks via the Restricted Isometry Property. Neural Computation, 2014, 26, 1198-1235.	2.2	22
35	Spectral Superresolution of Hyperspectral Imagery Using Reweighted ℓ_1 Spatial Filtering. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 602-606.	3.1	28
36	Iterative soft-thresholding for time-varying signal recovery. , 2014, , .		0

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37	Sparse coding model captures V1 population response statistics to natural movies. BMC Neuroscience, 2013, 14, P334.	1.9	0
38	Evaluating the Generalization of the Hearing Aid Speech Quality Index (HASQI). IEEE Transactions on Audio Speech and Language Processing, 2013, 21, 407-415.	3.2	18
39	Configurable hardware integrate and fire neurons for sparse approximation. Neural Networks, 2013, 45, 134-143.	5.9	26
40	Convergence of a neural network for sparse approximation using the nonsmooth Łojasiewicz inequality. , 2013, , .		4
41	Visual Nonclassical Receptive Field Effects Emerge from Sparse Coding in a Dynamical System. PLoS Computational Biology, 2013, 9, e1003191.	3.2	75
42	A novel binary mask estimator based on sparse approximation. , 2013, , .		5
43	Dynamic filtering of sparse signals using reweighted ℓ<inf>1</inf>. , 2013, , .		10
44	Speech understanding in noise provided by a simulated cochlear implant processor based on matching pursuit. , 2013, , .		0
45	Convergence Speed of a Dynamical System for Sparse Recovery. IEEE Transactions on Signal Processing, 2013, 61, 4259-4269.	5.3	24
46	Compressive LADAR in realistic environments. , 2012, , .		1
47	A Common Network Architecture Efficiently Implements a Variety of Sparsity-Based Inference Problems. Neural Computation, 2012, 24, 3317-3339.	2.2	19
48	The Restricted Isometry Property for Echo State Networks with applications to sequence memory capacity. , 2012, , .		3
49	Convergence and Rate Analysis of Neural Networks for Sparse Approximation. IEEE Transactions on Neural Networks and Learning Systems, 2012, 23, 1377-1389.	11.3	65
50	Low Power Sparse Approximation on Reconfigurable Analog Hardware. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 530-541.	3.6	25
51	Compressive ladar detector noise performance. , 2012, , .		0
52	Biologically realistic excitatory and inhibitory cell properties emerge from a sparse coding network. BMC Neuroscience, 2012, 13, .	1.9	1
53	Sparsity penalties in dynamical system estimation. , 2011, , .		62
54	A scalable implementation of sparse approximation on a field programmable analog array. , 2011, , .		3

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55	Stable manifold embeddings with operators satisfying the Restricted Isometry Property. , 2011, , .		3
56	A causal Locally Competitive Algorithm for the sparse decomposition of audio signals. , 2011, , .		2
57	Concentration of Measure for Block Diagonal Matrices With Applications to Compressive Signal Processing. IEEE Transactions on Signal Processing, 2011, 59, 5859-5875.	5.3	35
58	Stable Takens' Embeddings for Linear Dynamical Systems. IEEE Transactions on Signal Processing, 2011, 59, 4781-4794.	5.3	16
59	Learning Sparse Codes for Hyperspectral Imagery. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 963-978.	10.8	168
60	Estimation and dynamic updating of time-varying signals with sparse variations. , 2011, , .		16
61	The Restricted Isometry Property for block diagonal matrices. , 2011, , .		22
62	Global convergence of the Locally Competitive Algorithm. , 2011, , .		8
63	Sparse coding models demonstrate some non-classical receptive field effects. BMC Neuroscience, 2010, 11, .	1.9	2
64	Stable Takens' Embedding for linear dynamical systems. , 2010, , .		1
65	Analog sparse approximation for compressed sensing recovery. , 2010, , .		3
66	Sparse coding for spectral signatures in hyperspectral images. , 2010, , .		6
67	Concentration of measure for block diagonal matrices with repeated blocks. , 2010, , .		3
68	Concentration of measure for block diagonal measurement matrices. , 2010, , .		9
69	Sparse Coding via Thresholding and Local Competition in Neural Circuits. Neural Computation, 2008, 20, 2526-2563.	2.2	362
70	Locally Competitive Algorithms for Sparse Approximation. , 2007, , .		26
71	All-Optical Nanoscale pH Meter. Nano Letters, 2006, 6, 1687-1692.	9.1	337
72	Analyzing the robustness of redundant population codes in sensory and feature extraction systems. Neurocomputing, 2006, 69, 1215-1218.	5.9	26

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73	Measuring information transfer in the spike generator of crayfish sustaining fibers. Biological Cybernetics, 2004, 90, 89-97.	1.3	8