James J Dicarlo

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3157887/publications.pdf

Version: 2024-02-01

43 papers	10,659 citations	147801 31 h-index	302126 39 g-index
61 all docs	61 docs citations	61 times ranked	6028 citing authors

#	Article	IF	Citations
1	How Does the Brain Solve Visual Object Recognition?. Neuron, 2012, 73, 415-434.	8.1	1,390
2	Performance-optimized hierarchical models predict neural responses in higher visual cortex. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8619-8624.	7.1	1,365
3	Using goal-driven deep learning models to understand sensory cortex. Nature Neuroscience, 2016, 19, 356-365.	14.8	1,065
4	Untangling invariant object recognition. Trends in Cognitive Sciences, 2007, 11, 333-341.	7.8	787
5	Fast Readout of Object Identity from Macaque Inferior Temporal Cortex. Science, 2005, 310, 863-866.	12.6	720
6	Deep Neural Networks Rival the Representation of Primate IT Cortex for Core Visual Object Recognition. PLoS Computational Biology, 2014, 10, e1003963.	3.2	668
7	Why is Real-World Visual Object Recognition Hard?. PLoS Computational Biology, 2008, 4, e27.	3.2	408
8	Evidence that recurrent circuits are critical to the ventral streamâ€™s execution of core object recognition behavior. Nature Neuroscience, 2019, 22, 974-983.	14.8	305
9	Selectivity and Tolerance (â€œInvarianceâ€) Both Increase as Visual Information Propagates from Cortical Area V4 to IT. Journal of Neuroscience, 2010, 30, 12978-12995.	3.6	300
10	Object Selectivity of Local Field Potentials and Spikes in the Macaque Inferior Temporal Cortex. Neuron, 2006, 49, 433-445.	8.1	274
11	Explicit information for category-orthogonal object properties increases along the ventral stream. Nature Neuroscience, 2016, 19, 613-622.	14.8	261
12	Neural population control via deep image synthesis. Science, 2019, 364, .	12.6	260
13	Large-Scale, High-Resolution Comparison of the Core Visual Object Recognition Behavior of Humans, Monkeys, and State-of-the-Art Deep Artificial Neural Networks. Journal of Neuroscience, 2018, 38, 7255-7269.	3.6	233
14	Unsupervised Natural Experience Rapidly Alters Invariant Object Representation in Visual Cortex. Science, 2008, 321, 1502-1507.	12.6	218
15	Unsupervised neural network models of the ventral visual stream. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	168
16	Simple Learned Weighted Sums of Inferior Temporal Neuronal Firing Rates Accurately Predict Human Core Object Recognition Performance. Journal of Neuroscience, 2015, 35, 13402-13418.	3.6	148
17	Optogenetic and pharmacological suppression of spatial clusters of face neurons reveal their causal role in face gender discrimination. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6730-6735.	7.1	143
18	A rodent model for the study of invariant visual object recognition. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 8748-8753.	7.1	139

#	Article	IF	Citations
19	Precedence of the Eye Region in Neural Processing of Faces. Journal of Neuroscience, 2012, 32, 16666-16682.	3.6	135
20	'Breaking' position-invariant object recognition. Nature Neuroscience, 2005, 8, 1145-1147.	14.8	128
21	Unsupervised Natural Visual Experience Rapidly Reshapes Size-Invariant Object Representation in Inferior Temporal Cortex. Neuron, 2010, 67, 1062-1075.	8.1	98
22	Integrative Benchmarking to Advance Neurally Mechanistic Models of Human Intelligence. Neuron, 2020, 108, 413-423.	8.1	94
23	What Response Properties Do Individual Neurons Need to Underlie Position and Clutter â€œInvariantâ€• Object Recognition?. Journal of Neurophysiology, 2009, 102, 360-376.	1.8	85
24	Comparison of Object Recognition Behavior in Human and Monkey. Journal of Neuroscience, 2015, 35, 12127-12136.	3.6	83
25	Velocity Invariance of Receptive Field Structure in Somatosensory Cortical Area 3b of the Alert Monkey. Journal of Neuroscience, 1999, 19, 401-419.	3.6	79
26	A Stable Topography of Selectivity for Unfamiliar Shape Classes in Monkey Inferior Temporal Cortex. Cerebral Cortex, 2008, 18, 1676-1694.	2.9	78
27	Fast Recurrent Processing via Ventrolateral Prefrontal Cortex Is Needed by the Primate Ventral Stream for Robust Core Visual Object Recognition. Neuron, 2021, 109, 164-176.e5.	8.1	76
28	Large-Scale, High-Resolution Neurophysiological Maps Underlying fMRI of Macaque Temporal Lobe. Journal of Neuroscience, 2013, 33, 15207-15219.	3.6	68
29	Balanced Increases in Selectivity and Tolerance Produce Constant Sparseness along the Ventral Visual Stream. Journal of Neuroscience, 2012, 32, 10170-10182.	3.6	65
30	Neural dynamics at successive stages of the ventral visual stream are consistent with hierarchical error signals. ELife, 2018, 7, .	6.0	48
31	Computational models of category-selective brain regions enable high-throughput tests of selectivity. Nature Communications, 2021, 12, 5540.	12.8	47
32	Neurophysiological Organization of the Middle Face Patch in Macaque Inferior Temporal Cortex. Journal of Neuroscience, 2016, 36, 12729-12745.	3.6	43
33	Chronically implantable LED arrays for behavioral optogenetics in primates. Nature Methods, 2021, 18, 1112-1116.	19.0	41
34	Eight open questions in the computational modeling of higher sensory cortex. Current Opinion in Neurobiology, 2016, 37, 114-120.	4.2	34
35	Neuronal Learning of Invariant Object Representation in the Ventral Visual Stream Is Not Dependent on Reward. Journal of Neuroscience, 2012, 32, 6611-6620.	3.6	31
36	Reversible Inactivation of Different Millimeter-Scale Regions of Primate IT Results in Different Patterns of Core Object Recognition Deficits. Neuron, 2019, 102, 493-505.e5.	8.1	30

#	Article	IF	Citations
37	High-Resolution Three-Dimensional Microelectrode Brain Mapping Using Stereo Microfocal X-ray Imaging. Journal of Neurophysiology, 2008, 100, 2966-2976.	1.8	24
38	The inferior temporal cortex is a potential cortical precursor of orthographic processing in untrained monkeys. Nature Communications, 2020, 11, 3886.	12.8	18
39	Unsupervised changes in core object recognition behavior are predicted by neural plasticity in inferior temporal cortex. ELife, 2021, 10, .	6.0	9
40	Teacher Guided Architecture Search. , 2019, , .		8
41	Can Deep Neural Networks Rival Human Ability to Generalize in Core Object Recognition?. , 2018, , .		5
42	Neural Population Control via Deep ANN Image Synthesis. , 2018, , .		2
43	Pinwheel-like Iso-Orientation Domains in a Convolutional Neural Network Model. Journal of Vision, 2018, 18, 771.	0.3	1