James J Dicarlo

List of Publications by Year
in descending order

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	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
2	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
3	Unsupervised changes in core object recognition behavior are predicted by neural plasticity in inferior temporal cortex. ELife, 2021, 10, .	6.0	9
4	Chronically implantable LED arrays for behavioral optogenetics in primates. Nature Methods, 2021, 18, 1112-1116.	19.0	41
5	Computational models of category-selective brain regions enable high-throughput tests of selectivity. Nature Communications, 2021, 12, 5540.	12.8	47
6	Integrative Benchmarking to Advance Neurally Mechanistic Models of Human Intelligence. Neuron, 2020, 108, 413-423.	8.1	94
7	The inferior temporal cortex is a potential cortical precursor of orthographic processing in untrained monkeys. Nature Communications, 2020, 11, 3886.	12.8	18
8	Neural population control via deep image synthesis. Science, 2019, 364, .	12.6	260
9	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
10	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
11	Teacher Guided Architecture Search. , 2019, , .		8
12	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
13	Neural dynamics at successive stages of the ventral visual stream are consistent with hierarchical error signals. ELife, 2018, 7, .	6.0	48
14	Can Deep Neural Networks Rival Human Ability to Generalize in Core Object Recognition?. , 2018, , .		5
15	Neural Population Control via Deep ANN Image Synthesis. , 2018, , .		2
16	Pinwheel-like Iso-Orientation Domains in a Convolutional Neural Network Model. Journal of Vision, 2018, 18, 771.	0.3	1
17	Neurophysiological Organization of the Middle Face Patch in Macaque Inferior Temporal Cortex. Journal of Neuroscience, 2016, 36, 12729-12745.	3.6	43
18	Explicit information for category-orthogonal object properties increases along the ventral stream. Nature Neuroscience, 2016, 19, 613-622.	14.8	261

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19	Using goal-driven deep learning models to understand sensory cortex. Nature Neuroscience, 2016, 19, 356-365.	14.8	1,065
20	Eight open questions in the computational modeling of higher sensory cortex. Current Opinion in Neurobiology, 2016, 37, 114-120.	4.2	34
21	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
22	Comparison of Object Recognition Behavior in Human and Monkey. Journal of Neuroscience, 2015, 35, 12127-12136.	3.6	83
23	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
24	Deep Neural Networks Rival the Representation of Primate IT Cortex for Core Visual Object Recognition. PLoS Computational Biology, 2014, 10, e1003963.	3.2	668
25	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
26	Large-Scale, High-Resolution Neurophysiological Maps Underlying fMRI of Macaque Temporal Lobe. Journal of Neuroscience, 2013, 33, 15207-15219.	3.6	68
27	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
28	Precedence of the Eye Region in Neural Processing of Faces. Journal of Neuroscience, 2012, 32, 16666-16682.	3.6	135
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	How Does the Brain Solve Visual Object Recognition?. Neuron, 2012, 73, 415-434.	8.1	1,390
31	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
32	Unsupervised Natural Visual Experience Rapidly Reshapes Size-Invariant Object Representation in Inferior Temporal Cortex. Neuron, 2010, 67, 1062-1075.	8.1	98
33	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
34	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
35	Why is Real-World Visual Object Recognition Hard?. PLoS Computational Biology, 2008, 4, e27.	3.2	408
36	A Stable Topography of Selectivity for Unfamiliar Shape Classes in Monkey Inferior Temporal Cortex. Cerebral Cortex, 2008, 18, 1676-1694.	2.9	78

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37	Unsupervised Natural Experience Rapidly Alters Invariant Object Representation in Visual Cortex. Science, 2008, 321, 1502-1507.	12.6	218
38	High-Resolution Three-Dimensional Microelectrode Brain Mapping Using Stereo Microfocal X-ray Imaging. Journal of Neurophysiology, 2008, 100, 2966-2976.	1.8	24
39	Untangling invariant object recognition. Trends in Cognitive Sciences, 2007, 11, 333-341.	7.8	787
40	Object Selectivity of Local Field Potentials and Spikes in the Macaque Inferior Temporal Cortex. Neuron, 2006, 49, 433-445.	8.1	274
41	'Breaking' position-invariant object recognition. Nature Neuroscience, 2005, 8, 1145-1147.	14.8	128
42	Fast Readout of Object Identity from Macaque Inferior Temporal Cortex. Science, 2005, 310, 863-866.	12.6	720
43	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