

Vijay Balasubramanian

List of Publications by Year in descending order

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33
papers

1,501
citations

516561

16
h-index

414303

32
g-index

49
all docs

49
docs citations

49
times ranked

1391
citing authors

#	ARTICLE	IF	CITATIONS
1	Retina is structured to process an excess of darkness in natural scenes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17368-17373.	3.3	171
2	Statistical Inference, Occam's Razor, and Statistical Mechanics on the Space of Probability Distributions. Neural Computation, 1997, 9, 349-368.	1.3	160
3	Design of a Neuronal Array. Journal of Neuroscience, 2008, 28, 3178-3189.	1.7	132
4	Receptive fields and functional architecture in the retina. Journal of Physiology, 2009, 587, 2753-2767.	1.3	116
5	How a well-adapted immune system is organized. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5950-5955.	3.3	114
6	Natural Images from the Birthplace of the Human Eye. PLoS ONE, 2011, 6, e20409.	1.1	79
7	Local statistics in natural scenes predict the saliency of synthetic textures. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 18149-18154.	3.3	75
8	A bias–variance trade-off governs individual differences in on-line learning in an unpredictable environment. Nature Human Behaviour, 2018, 2, 213-224.	6.2	61
9	Variance predicts salience in central sensory processing. ELife, 2014, 3, .	2.8	60
10	Competitive binding predicts nonlinear responses of olfactory receptors to complex mixtures. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 9598-9603.	3.3	59
11	A principle of economy predicts the functional architecture of grid cells. ELife, 2015, 4, e08362.	2.8	53
12	Design of a Trichromatic Cone Array. PLoS Computational Biology, 2010, 6, e1000677.	1.5	47
13	Environmental deformations dynamically shift the grid cell spatial metric. ELife, 2018, 7, .	2.8	44
14	Heterogeneity and Efficiency in the Brain. Proceedings of the IEEE, 2015, 103, 1346-1358.	16.4	34
15	Temporal stability of stimulus representation increases along rodent visual cortical hierarchies. Nature Communications, 2021, 12, 4448.	5.8	27
16	A geometric attractor mechanism for self-organization of entorhinal grid modules. ELife, 2019, 8, .	2.8	26
17	Adaptation of olfactory receptor abundances for efficient coding. ELife, 2019, 8, .	2.8	23
18	Rules and mechanisms for efficient two-stage learning in neural circuits. ELife, 2017, 6, .	2.8	22

#	ARTICLE	IF	CITATIONS
19	Brain power. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	19
20	Cortical Neural Activity Predicts Sensory Acuity Under Optogenetic Manipulation. Journal of Neuroscience, 2018, 38, 2094-2105.	1.7	18
21	Efficient coding of natural scene statistics predicts discrimination thresholds for grayscale textures. ELife, 2020, 9, .	2.8	18
22	Environmental deformations dynamically shift human spatial memory. Hippocampus, 2021, 31, 89-101.	0.9	17
23	Transformation of Stimulus Correlations by the Retina. PLoS Computational Biology, 2013, 9, e1003344.	1.5	16
24	Global embeddings for branes at toric singularities. Journal of High Energy Physics, 2012, 2012, 1.	1.6	13
25	Toric Lego: a method for modular model building. Journal of High Energy Physics, 2010, 2010, 1.	1.6	11
26	What is optimal in optimal inference?. Current Opinion in Behavioral Sciences, 2019, 29, 117-126.	2.0	9
27	Connectivity and dynamics in the olfactory bulb. PLoS Computational Biology, 2022, 18, e1009856.	1.5	9
28	Thin walls and junctions: Vacuum decay in multidimensional field landscapes. Physical Review D, 2011, 84, .	1.6	7
29	Human inference reflects a normative balance of complexity and accuracy. Nature Human Behaviour, 2022, 6, 1153-1168.	6.2	7
30	Rat sensitivity to multipoint statistics is predicted by efficient coding of natural scenes. ELife, 2021, 10, .	2.8	6
31	What the odor is not: Estimation by elimination. Physical Review E, 2021, 104, 024415.	0.8	3
32	Cortical feedback and gating in odor discrimination and generalization. PLoS Computational Biology, 2021, 17, e1009479.	1.5	2
33	Dynamical self-organization and efficient representation of space by grid cells. Current Opinion in Neurobiology, 2021, 70, 206-213.	2.0	2