Robert A Jacobs

List of Publications by Year
in descending order

75 papers	10,543 citations	159585 30 h-index	95266 68 g-index
75 all docs	75 docs citations	75 times ranked	5843 citing authors

#	Article	IF	Citations
1	Analogy-Related Information Can Be Accessed by Simple Addition and Subtraction of fMRI Activation Patterns, Without Participants Performing any Analogy Task. Neurobiology of Language (Cambridge,) Tj ETQq1 1 0.784314 rgBT /Ove		
2	Conceptual knowledge shapes visual working memory for complex visual information. Scientific Reports, 2022, 12, 8088.	3.3	1
3	Optimal attentional allocation in the presence of capacity constraints in uncued and cued visual search. Journal of Vision, 2021, 21, 3.	0.3	2
4	Semantic influence on visual working memory of object identity and location. Cognition, 2021, 217, 104891.	2.2	5
5	Can machine learning account for human visual object shape similarity judgments?. Vision Research, 2020, 167, 87-99.	1.4	9
6	Cortical Transformation of Stimulus Space in Order to Linearize a Linearly Inseparable Task. Journal of Cognitive Neuroscience, 2020, 32, 2342-2355.	2.3	0
7	Efficient data compression in perception and perceptual memory.. Psychological Review, 2020, 127, 891-917.	3.8	28
8	The importance of constraints on constraints. Behavioral and Brain Sciences, 2020, 43, e3.	0.7	0
9	Can multisensory training aid visual learning? A computational investigation. Journal of Vision, 2019, 19, 1.	0.3	7
10	Adaptive allocation of human visual working memory capacity during statistical and categorical learning. Journal of Vision, 2019, 19, 11.	0.3	21
11	Comparing the Visual Representations and Performance of Humans and Deep Neural Networks. Current Directions in Psychological Science, 2019, 28, 34-39.	5.3	10
12	Abstract Representations of Object-Directed Action in the Left Inferior Parietal Lobule. Cerebral Cortex, 2018, 28, 2162-2174.	2.9	54
13	Learning abstract visual concepts via probabilistic program induction in a Language of Thought. Cognition, 2017, 168, 320-334.	2.2	18
14	Visual shape perception as Bayesian inference of 3D object-centered shape representations.. Psychological Review, 2017, 124, 740-761.	3.8	35
15	Multisensory Part-based Representations of Objects in Human Lateral Occipital Cortex. Journal of Cognitive Neuroscience, 2016, 28, 869-881.	2.3	29
16	Four Problems Solved by the Probabilistic Language of Thought. Current Directions in Psychological Science, 2016, 25, 54-59.	5.3	24
17	Learning multisensory representations for auditory-visual transfer of sequence category knowledge: a probabilistic language of thought approach. Psychonomic Bulletin and Review, 2015, 22, 673-686.	2.8	21
18	From Sensory Signals to Modality-Independent Conceptual Representations: A Probabilistic Language of Thought Approach. PLoS Computational Biology, 2015, 11, e1004610.	3.2	20

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19	Computer vision enhances mobile eye-tracking to expose expert cognition in natural-scene visual-search tasks. , 2014, , .		1
20	The Adaptive Nature of Visual Working Memory. Current Directions in Psychological Science, 2014, 23, 164-170.	5.3	31
21	Toward ecologically realistic theories in visual short-term memory research. Attention, Perception, and Psychophysics, 2014, 76, 2158-2170.	1.3	28
22	Transfer of object category knowledge across visual and haptic modalities: Experimental and computational studies. Cognition, 2013, 126, 135-148.	2.2	36
23	Melioration as rational choice: Sequential decision making in uncertain environments.. Psychological Review, 2013, 120, 139-154.	3.8	66
24	A probabilistic clustering theory of the organization of visual short-term memory.. Psychological Review, 2013, 120, 297-328.	3.8	75
25	An ideal observer analysis of visual working memory.. Psychological Review, 2012, 119, 807-830.	3.8	112
26	Sphere²: Jerry's rig, an OpenGL application for non-linear panorama viewing and interaction. , 2012, , .		3
27	A Rational Analysis of the Acquisition of Multisensory Representations. Cognitive Science, 2012, 36, 305-332.	1.7	20
28	Are People Successful at Learning Sequences of Actions on a Perceptual Matching Task?. Cognitive Science, 2011, 35, 939-962.	1.7	4
29	Bayesian learning theory applied to human cognition. Wiley Interdisciplinary Reviews: Cognitive Science, 2011, 2, 8-21.	2.8	90
30	Adaptive Allocation of Vision under Competing Task Demands. Journal of Neuroscience, 2011, 31, 928-943.	3.6	18
31	Optimality Principles Apply to a Broad Range of Information Integration Problems in Perception and Action. , 2011, , 279-291.		1
32	Visual learning with reliable and unreliable features. Journal of Vision, 2010, 10, 1-15.	0.3	5
33	Visual Learning in Multisensory Environments. Topics in Cognitive Science, 2010, 2, 217-225.	1.9	7
34	Integrated Approaches to Perceptual Learning. Topics in Cognitive Science, 2010, 2, 182-188.	1.9	4
35	Adaptive precision pooling of model neuron activities predicts the efficiency of human visual learning. Journal of Vision, 2009, 9, 22-22.	0.3	33
36	Perception of speech reflects optimal use of probabilistic speech cues. Cognition, 2008, 108, 804-809.	2.2	279

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37	Learning optimal integration of arbitrary features in a perceptual discrimination task. Journal of Vision, 2008, 8, 3.	0.3	11
38	Parameter learning but not structure learning: A Bayesian network model of constraints on early perceptual learning. Journal of Vision, 2007, 7, 4.	0.3	20
39	Visual learning by cue-dependent and cue-invariant mechanisms. Vision Research, 2007, 47, 145-156.	1.4	3
40	Learning the best first: interactions between visual development and learning. , 2007, , 39-64.		0
41	Properties of Synergies Arising from a Theory of Optimal Motor Behavior. Neural Computation, 2006, 18, 2320-2342.	2.2	62
42	The Costs of Ignoring High-Order Correlations in Populations of Model Neurons. Neural Computation, 2006, 18, 660-682.	2.2	4
43	Near-Optimal Human Adaptive Control across Different Noise Environments. Journal of Neuroscience, 2006, 26, 10883-10887.	3.6	22
44	Depth-dependent blur adaptation. Vision Research, 2004, 44, 113-117.	1.4	11
45	Depth-dependent contrast gain-control. Vision Research, 2004, 44, 685-693.	1.4	6
46	Bayesian integration of visual and auditory signals for spatial localization. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 1391.	1.5	362
47	Experience-dependent visual cue recalibration based on discrepancies between visual and haptic percepts. Vision Research, 2003, 43, 2603-2613.	1.4	52
48	A Developmental Approach Aids Motor Learning. Neural Computation, 2003, 15, 2051-2065.	2.2	17
49	Visual Development and the Acquisition of Motion Velocity Sensitivities. Neural Computation, 2003, 15, 761-781.	2.2	7
50	Developmental Constraints Aid the Acquisition of Binocular Disparity Sensitivities. Neural Computation, 2003, 15, 161-182.	2.2	20
51	Factorial Hidden Markov Models and the Generalized Backfitting Algorithm. Neural Computation, 2002, 14, 2415-2437.	2.2	7
52	What determines visual cue reliability?. Trends in Cognitive Sciences, 2002, 6, 345-350.	7.8	159
53	Comparing perceptual learning across tasks: A review. Journal of Vision, 2002, 2, 5-5.	0.3	208
54	Fast Temporal Dynamics of Visual Cue Integration. Perception, 2002, 31, 421-434.	1.2	31

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55	Experience-dependent visual cue integration based on consistencies between visual and haptic percepts. Vision Research, 2001, 41, 449-461.	1.4	92
56	Motor timing learned without motor training. Nature Neuroscience, 2000, 3, 860-862.	14.8	113
57	Perceptual learning for a pattern discrimination task. Vision Research, 2000, 40, 3209-3230.	1.4	38
58	Computational studies of the development of functionally specialized neural modules. Trends in Cognitive Sciences, 1999, 3, 31-38.	7.8	91
59	Optimal integration of texture and motion cues to depth. Vision Research, 1999, 39, 3621-3629.	1.4	291
60	Experience-dependent integration of texture and motion cues to depth. Vision Research, 1999, 39, 4062-4075.	1.4	77
61	Modeling the Combination of Motion, Stereo, and Vergence Angle Cues to Visual Depth. Neural Computation, 1999, 11, 1297-1330.	2.2	15
62	Bias/Variance Analyses of Mixtures-of-Experts Architectures. Neural Computation, 1997, 9, 369-383.	2.2	71
63	Nature, nurture, and the development of functional specializations: A computational approach. Psychonomic Bulletin and Review, 1997, 4, 299-309.	2.8	36
64	A Bayesian Approach to Model Selection in Hierarchical Mixtures-of-Experts Architectures. Neural Networks, 1997, 10, 231-241.	5.9	46
65	Bayesian inference for hierarchical mixtures-of-experts with applications to regression and classification. Statistical Methods in Medical Research, 1996, 5, 375-390.	1.5	4
66	Bayesian Inference in Mixtures-of-Experts and Hierarchical Mixtures-of-Experts Models with an Application to Speech Recognition. Journal of the American Statistical Association, 1996, 91, 953-960.	3.1	126
67	Bayesian Inference in Mixtures-of-Experts and Hierarchical Mixtures-of-Experts Models With an Application to Speech Recognition. Journal of the American Statistical Association, 1996, 91, 953.	3.1	25
68	On computational evidence for different types of spatial relations encoding: Reply to Cook et al. (1995).. Journal of Experimental Psychology: Human Perception and Performance, 1995, 21, 423-431.	0.9	16
69	Methods For Combining Experts' Probability Assessments. Neural Computation, 1995, 7, 867-888.	2.2	309
70	Encoding Shape and Spatial Relations: The Role of Receptive Field Size in Coordinating Complementary Representations. Cognitive Science, 1994, 18, 361-386.	1.7	77
71	Hierarchical Mixtures of Experts and the EM Algorithm. Neural Computation, 1994, 6, 181-214.	2.2	1,982
72	Computational Consequences of a Bias toward Short Connections. Journal of Cognitive Neuroscience, 1992, 4, 323-336.	2.3	126

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73	Adaptive Mixtures of Local Experts. Neural Computation, 1991, 3, 79-87.	2.2	3,109
74	Task Decomposition Through Competition in a Modular Connectionist Architecture: The What and Where Vision Tasks. Cognitive Science, 1991, 15, 219-250.	1.7	366
75	Increased rates of convergence through learning rate adaptation. Neural Networks, 1988, 1, 295-307.	5.9	1,432