

Robert A Jacobs

List of Publications by Year in descending order

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75
papers

10,543
citations

182225

30
h-index

111975

67
g-index

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all docs

75
docs citations

75
times ranked

6705
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. <i>Neurobiology of Language</i> (Cambridge, U.S.), 2022, 12, 8088.	1.6	1
2	Conceptual knowledge shapes visual working memory for complex visual information. <i>Scientific Reports</i> , 2022, 12, 8088.	0.1	2
3	Optimal attentional allocation in the presence of capacity constraints in uncued and cued visual search. <i>Journal of Vision</i> , 2021, 21, 3.	1.1	5
4	Semantic influence on visual working memory of object identity and location. <i>Cognition</i> , 2021, 217, 104891.	0.7	9
5	Can machine learning account for human visual object shape similarity judgments?. <i>Vision Research</i> , 2020, 167, 87-99.	1.1	0
6	Cortical Transformation of Stimulus Space in Order to Linearize a Linearly Inseparable Task. <i>Journal of Cognitive Neuroscience</i> , 2020, 32, 2342-2355.	2.7	28
7	Efficient data compression in perception and perceptual memory.. <i>Psychological Review</i> , 2020, 127, 891-917.	0.4	0
8	The importance of constraints on constraints. <i>Behavioral and Brain Sciences</i> , 2020, 43, e3.	0.1	7
9	Can multisensory training aid visual learning? A computational investigation. <i>Journal of Vision</i> , 2019, 19, 1.	0.1	21
10	Adaptive allocation of human visual working memory capacity during statistical and categorical learning. <i>Journal of Vision</i> , 2019, 19, 11.	2.8	10
11	Comparing the Visual Representations and Performance of Humans and Deep Neural Networks. <i>Current Directions in Psychological Science</i> , 2019, 28, 34-39.	1.6	54
12	Abstract Representations of Object-Directed Action in the Left Inferior Parietal Lobule. <i>Cerebral Cortex</i> , 2018, 28, 2162-2174.	1.1	18
13	Learning abstract visual concepts via probabilistic program induction in a Language of Thought. <i>Cognition</i> , 2017, 168, 320-334.	2.7	35
14	Visual shape perception as Bayesian inference of 3D object-centered shape representations.. <i>Psychological Review</i> , 2017, 124, 740-761.	1.1	29
15	Multisensory Part-based Representations of Objects in Human Lateral Occipital Cortex. <i>Journal of Cognitive Neuroscience</i> , 2016, 28, 869-881.	2.8	24
16	Four Problems Solved by the Probabilistic Language of Thought. <i>Current Directions in Psychological Science</i> , 2016, 25, 54-59.	1.4	21
17	Learning multisensory representations for auditory-visual transfer of sequence category knowledge: a probabilistic language of thought approach. <i>Psychonomic Bulletin and Review</i> , 2015, 22, 673-686.	1.5	20
18	From Sensory Signals to Modality-Independent Conceptual Representations: A Probabilistic Language of Thought Approach. <i>PLoS Computational Biology</i> , 2015, 11, e1004610.		

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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.	2.8	31
21	Toward ecologically realistic theories in visual short-term memory research. Attention, Perception, and Psychophysics, 2014, 76, 2158-2170.	0.7	28
22	Transfer of object category knowledge across visual and haptic modalities: Experimental and computational studies. Cognition, 2013, 126, 135-148.	1.1	36
23	Melioration as rational choice: Sequential decision making in uncertain environments.. Psychological Review, 2013, 120, 139-154.	2.7	66
24	A probabilistic clustering theory of the organization of visual short-term memory.. Psychological Review, 2013, 120, 297-328.	2.7	75
25	An ideal observer analysis of visual working memory.. Psychological Review, 2012, 119, 807-830.	2.7	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.	0.8	20
28	Are People Successful at Learning Sequences of Actions on a Perceptual Matching Task?. Cognitive Science, 2011, 35, 939-962.	0.8	4
29	Bayesian learning theory applied to human cognition. Wiley Interdisciplinary Reviews: Cognitive Science, 2011, 2, 8-21.	1.4	90
30	Adaptive Allocation of Vision under Competing Task Demands. Journal of Neuroscience, 2011, 31, 928-943.	1.7	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.	0.1	5
33	Visual Learning in Multisensory Environments. Topics in Cognitive Science, 2010, 2, 217-225.	1.1	7
34	Integrated Approaches to Perceptual Learning. Topics in Cognitive Science, 2010, 2, 182-188.	1.1	4
35	Adaptive precision pooling of model neuron activities predicts the efficiency of human visual learning. Journal of Vision, 2009, 9, 22-22.	0.1	33
36	Perception of speech reflects optimal use of probabilistic speech cues. Cognition, 2008, 108, 804-809.	1.1	279

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37	Learning optimal integration of arbitrary features in a perceptual discrimination task. <i>Journal of Vision</i> , 2008, 8, 3.	0.1	11
38	Parameter learning but not structure learning: A Bayesian network model of constraints on early perceptual learning. <i>Journal of Vision</i> , 2007, 7, 4.	0.1	20
39	Visual learning by cue-dependent and cue-invariant mechanisms. <i>Vision Research</i> , 2007, 47, 145-156.	0.7	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. <i>Neural Computation</i> , 2006, 18, 2320-2342.	1.3	62
42	The Costs of Ignoring High-Order Correlations in Populations of Model Neurons. <i>Neural Computation</i> , 2006, 18, 660-682.	1.3	4
43	Near-Optimal Human Adaptive Control across Different Noise Environments. <i>Journal of Neuroscience</i> , 2006, 26, 10883-10887.	1.7	22
44	Depth-dependent blur adaptation. <i>Vision Research</i> , 2004, 44, 113-117.	0.7	11
45	Depth-dependent contrast gain-control. <i>Vision Research</i> , 2004, 44, 685-693.	0.7	6
46	Bayesian integration of visual and auditory signals for spatial localization. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2003, 20, 1391.	0.8	362
47	Experience-dependent visual cue recalibration based on discrepancies between visual and haptic percepts. <i>Vision Research</i> , 2003, 43, 2603-2613.	0.7	52
48	A Developmental Approach Aids Motor Learning. <i>Neural Computation</i> , 2003, 15, 2051-2065.	1.3	17
49	Visual Development and the Acquisition of Motion Velocity Sensitivities. <i>Neural Computation</i> , 2003, 15, 761-781.	1.3	7
50	Developmental Constraints Aid the Acquisition of Binocular Disparity Sensitivities. <i>Neural Computation</i> , 2003, 15, 161-182.	1.3	20
51	Factorial Hidden Markov Models and the Generalized Backfitting Algorithm. <i>Neural Computation</i> , 2002, 14, 2415-2437.	1.3	7
52	What determines visual cue reliability?. <i>Trends in Cognitive Sciences</i> , 2002, 6, 345-350.	4.0	159
53	Comparing perceptual learning across tasks: A review. <i>Journal of Vision</i> , 2002, 2, 5-5.	0.1	208
54	Fast Temporal Dynamics of Visual Cue Integration. <i>Perception</i> , 2002, 31, 421-434.	0.5	31

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55	Experience-dependent visual cue integration based on consistencies between visual and haptic percepts. <i>Vision Research</i> , 2001, 41, 449-461.	0.7	92
56	Motor timing learned without motor training. <i>Nature Neuroscience</i> , 2000, 3, 860-862.	7.1	113
57	Perceptual learning for a pattern discrimination task. <i>Vision Research</i> , 2000, 40, 3209-3230.	0.7	38
58	Computational studies of the development of functionally specialized neural modules. <i>Trends in Cognitive Sciences</i> , 1999, 3, 31-38.	4.0	91
59	Optimal integration of texture and motion cues to depth. <i>Vision Research</i> , 1999, 39, 3621-3629.	0.7	291
60	Experience-dependent integration of texture and motion cues to depth. <i>Vision Research</i> , 1999, 39, 4062-4075.	0.7	77
61	Modeling the Combination of Motion, Stereo, and Vergence Angle Cues to Visual Depth. <i>Neural Computation</i> , 1999, 11, 1297-1330.	1.3	15
62	Bias/Variance Analyses of Mixtures-of-Experts Architectures. <i>Neural Computation</i> , 1997, 9, 369-383.	1.3	71
63	Nature, nurture, and the development of functional specializations: A computational approach. <i>Psychonomic Bulletin and Review</i> , 1997, 4, 299-309.	1.4	36
64	A Bayesian Approach to Model Selection in Hierarchical Mixtures-of-Experts Architectures. <i>Neural Networks</i> , 1997, 10, 231-241.	3.3	46
65	Bayesian inference for hierarchical mixtures-of-experts with applications to regression and classification. <i>Statistical Methods in Medical Research</i> , 1996, 5, 375-390.	0.7	4
66	Bayesian Inference in Mixtures-of-Experts and Hierarchical Mixtures-of-Experts Models with an Application to Speech Recognition. <i>Journal of the American Statistical Association</i> , 1996, 91, 953-960.	1.8	126
67	On computational evidence for different types of spatial relations encoding: Reply to Cook et al. (1995).. <i>Journal of Experimental Psychology: Human Perception and Performance</i> , 1995, 21, 423-431.	0.7	16
68	Methods For Combining Experts' Probability Assessments. <i>Neural Computation</i> , 1995, 7, 867-888.	1.3	309
69	Encoding Shape and Spatial Relations: The Role of Receptive Field Size in Coordinating Complementary Representations. <i>Cognitive Science</i> , 1994, 18, 361-386.	0.8	77
70	Hierarchical Mixtures of Experts and the EM Algorithm. <i>Neural Computation</i> , 1994, 6, 181-214.	1.3	1,982
71	Computational Consequences of a Bias toward Short Connections. <i>Journal of Cognitive Neuroscience</i> , 1992, 4, 323-336.	1.1	126
72	Adaptive Mixtures of Local Experts. <i>Neural Computation</i> , 1991, 3, 79-87.	1.3	3,109

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73	Task Decomposition Through Competition in a Modular Connectionist Architecture: The What and Where Vision Tasks. <i>Cognitive Science</i> , 1991, 15, 219-250.	0.8	366
74	Increased rates of convergence through learning rate adaptation. <i>Neural Networks</i> , 1988, 1, 295-307.	3.3	1,432
75	Bayesian Inference in Mixtures-of-Experts and Hierarchical Mixtures-of-Experts Models with an Application to Speech Recognition. , 0, .		25