Samuel Gershman

List of Publications by Year
in descending order

130 papers	11,970 citations	44069 48 h-index	39675 94 g-index
181 all docs	181 docs citations	181 times ranked	7191 citing authors

#	Article	IF	Citations
1	Impulsivity and risk-seeking as Bayesian inference under dopaminergic control. Neuropsychopharmacology, 2022, 47, 465-476.	5.4	3
2	Heuristics from bounded meta-learned inference.. Psychological Review, 2022, 129, 1042-1077.	3.8	7
3	The role of state uncertainty in the dynamics of dopamine. Current Biology, 2022, 32, 1077-1087.e9.	3.9	29
4	Inference and Search on Graph-Structured Spaces. Computational Brain & Behavior, 2021, 4, 125-147.	1.7	6
5	Policy compression: An information bottleneck in action selection. Psychology of Learning and Motivation - Advances in Research and Theory, 2021, , 195-232.	1.1	24
6	Reconsidering the evidence for learning in single cells. ELife, 2021, 10, .	6.0	58
7	What Is the Model in Modelâ€Based Planning?. Cognitive Science, 2021, 45, e12928.	1.7	9
8	Human visual motion perception shows hallmarks of Bayesian structural inference. Scientific Reports, 2021, 11, 3714.	3.3	11
9	Neural signatures of arbitration between Pavlovian and instrumental action selection. PLoS Computational Biology, 2021, 17, e1008553.	3.2	13
10	Rational inattention and tonic dopamine. PLoS Computational Biology, 2021, 17, e1008659.	3.2	18
11	Memory as a Computational Resource. Trends in Cognitive Sciences, 2021, 25, 240-251.	7.8	29
12	Confidence and central tendency in perceptual judgment. Attention, Perception, and Psychophysics, 2021, 83, 3024-3034.	1.3	20
13	Flexible modulation of sequence generation in the entorhinalâ€"hippocampal system. Nature Neuroscience, 2021, 24, 851-862.	14.8	38
14	Just looking: The innocent eye in neuroscience. Neuron, 2021, 109, 2220-2223.	8.1	9
15	Causal Inference Gates Corticostriatal Learning. Journal of Neuroscience, 2021, 41, 6892-6904.	3.6	6
16	Resource-rational decision making. Current Opinion in Behavioral Sciences, 2021, 41, 15-21.	3.9	59
17	Moral dynamics: Grounding moral judgment in intuitive physics and intuitive psychology. Cognition, 2021, 217, 104890.	2.2	5
18	The Reward-Complexity Trade-off in Schizophrenia. Computational Psychiatry, 2021, 5, 38-53.	2.0	2

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19	Multi-task reinforcement learning in humans. Nature Human Behaviour, 2021, 5, 764-773.	12.0	23
20	Origin of perseveration in the trade-off between reward and complexity. Cognition, 2020, 204, 104394.	2.2	30
21	Rationally inattentive intertemporal choice. Nature Communications, 2020, 11, 3365.	12.8	29
22	A Unified Framework for Dopamine Signals across Timescales. Cell, 2020, 183, 1600-1616.e25.	28.9	161
23	Social-Structure Learning. Current Directions in Psychological Science, 2020, 29, 460-466.	5.3	20
24	The rational use of causal inference to guide reinforcement learning strengthens with age. Npj Science of Learning, 2020, 5, 16.	2.8	14
25	Hierarchical structure is employed by humans during visual motion perception. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24581-24589.	7.1	15
26	Dissociable neural correlates of uncertainty underlie different exploration strategies. Nature Communications, 2020, 11, 2371.	12.8	49
27	A linear threshold model for optimal stopping behavior. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12750-12755.	7.1	19
28	The neurobiology of deep reinforcement learning. Current Biology, 2020, 30, R629-R632.	3.9	9
29	Finding structure in multi-armed bandits. Cognitive Psychology, 2020, 119, 101261.	2.2	26
30	Discovery of hierarchical representations for efficient planning. PLoS Computational Biology, 2020, 16, e1007594.	3.2	44
31	Structured Event Memory: A neuro-symbolic model of event cognition.. Psychological Review, 2020, 127, 327-361.	3.8	98
32	A theory of learning to infer.. Psychological Review, 2020, 127, 412-441.	3.8	36
33	Hippocampal remapping as hidden state inference. ELife, 2020, 9, .	6.0	76
34	Social structure learning in human anterior insula. ELife, 2020, 9, .	6.0	31
35	Analyzing Machineâ€Learned Representations: A Natural Language Case Study. Cognitive Science, 2020, 44, e12925.	1.7	1
36	Discovery of hierarchical representations for efficient planning. , 2020, 16, e1007594.		0

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37	Discovery of hierarchical representations for efficient planning. , 2020, 16, e1007594.		0
38	Discovery of hierarchical representations for efficient planning. , 2020, 16, e1007594.		0
39	Discovery of hierarchical representations for efficient planning. , 2020, 16, e1007594.		0
40	Discovery of hierarchical representations for efficient planning. , 2020, 16, e1007594.		0
41	How to never be wrong. Psychonomic Bulletin and Review, 2019, 26, 13-28.	2.8	61
42	Incentives Boost Model-Based Control Across a Range of Severity on Several Psychiatric Constructs. Biological Psychiatry, 2019, 85, 425-433.	1.3	66
43	Believing in dopamine. Nature Reviews Neuroscience, 2019, 20, 703-714.	10.2	156
44	Structured, uncertainty-driven exploration in real-world consumer choice. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13903-13908.	7.1	57
45	Editors' Introduction: Computational Approaches to Social Cognition. Topics in Cognitive Science, 2019, 11, 281-298.	1.9	10
46	Model-free and model-based learning processes in the updating of explicit and implicit evaluations. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6035-6044.	7.1	35
47	Adapting the flow of time with dopamine. Journal of Neurophysiology, 2019, 121, 1748-1760.	1.8	28
48	Estimating Scale-Invariant Future in Continuous Time. Neural Computation, 2019, 31, 681-709.	2.2	12
49	The transdiagnostic structure of mental effort avoidance. Scientific Reports, 2019, 9, 1689.	3.3	32
50	Causal Inference About Good and Bad Outcomes. Psychological Science, 2019, 30, 516-525.	3.3	38
51	The Generative Adversarial Brain. Frontiers in Artificial Intelligence, 2019, 2, 18.	3.4	40
52	Controllability governs the balance between Pavlovian and instrumental action selection. Nature Communications, 2019, 10, 5826.	12.8	52
53	The algorithmic architecture of exploration in the human brain. Current Opinion in Neurobiology, 2019, 55, 7-14.	4.2	106
54	Uncertainty and exploration.. Decision, 2019, 6, 277-286.	0.5	63

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55	Hierarchical motion structure is employed by humans during visual perception. Journal of Vision, 2019, 19, 282.	0.3	2
56	Dopamine neuron ensembles signal the content of sensory prediction errors. ELife, 2019, 8, .	6.0	39
57	Toward a universal decoder of linguistic meaning from brain activation. Nature Communications, 2018, 9, 963.	12.8	178
58	Planning Complexity Registers as a Cost in Metacontrol. Journal of Cognitive Neuroscience, 2018, 30, 1391-1404.	2.3	41
59	The Medial Prefrontal Cortex Shapes Dopamine Reward Prediction Errors under State Uncertainty. Neuron, 2018, 98, 616-629.e6.	8.1	100
60	Deconstructing the human algorithms for exploration. Cognition, 2018, 173, 34-42.	2.2	148
61	Pure correlates of exploration and exploitation in the human brain. Cognitive, Affective and Behavioral Neuroscience, 2018, 18, 117-126.	2.0	70
62	Pavlovian Control of Escape and Avoidance. Journal of Cognitive Neuroscience, 2018, 30, 1379-1390.	2.3	32
63	Rethinking dopamine as generalized prediction error. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20181645.	2.6	111
64	Integrating Models of Interval Timing and Reinforcement Learning. Trends in Cognitive Sciences, 2018, 22, 911-922.	7.8	45
65	Dopaminergic genes are associated with both directed and random exploration. Neuropsychologia, 2018, 120, 97-104.	1.6	36
66	Computational Phenotyping: Using Models to Understand Individual Differences in Personality, Development, and Mental Illness. Personality Neuroscience, 2018, 1, e18.	1.6	27
67	Competition and Cooperation Between Multiple Reinforcement Learning Systems. , 2018, , 153-178.		33
68	Remembrance of inferences past: Amortization in human hypothesis generation. Cognition, 2018, 178, 67-81.	2.2	22
69	Belief state representation in the dopamine system. Nature Communications, 2018, 9, 1891.	12.8	75
70	Neural Computations Underlying Causal Structure Learning. Journal of Neuroscience, 2018, 38, 7143-7157.	3.6	46
71	The Successor Representation: Its Computational Logic and Neural Substrates. Journal of Neuroscience, 2018, 38, 7193-7200.	3.6	106
72	Decision by sampling implements efficient coding of psychoeconomic functions.. Psychological Review, 2018, 125, 985-1001.	3.8	64

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73	Discovering social groups via latent structure learning.. Journal of Experimental Psychology: General, 2018, 147, 1881-1891.	2.1	30
74	Bayesian belief updating after a replication experiment. Behavioral and Brain Sciences, 2018, 41, e134.	0.7	1
75	Human-in-the-Loop Interpretability Prior. Advances in Neural Information Processing Systems, 2018, 31, .	2.8	3
76	On the Blessing of Abstraction. Quarterly Journal of Experimental Psychology, 2017, 70, 361-365.	1.1	9
77	Online learning of symbolic concepts. Journal of Mathematical Psychology, 2017, 77, 10-20.	1.8	20
78	Dopamine reward prediction errors reflect hidden-state inference across time. Nature Neuroscience, 2017, 20, 581-589.	14.8	152
79	Predicting the past, remembering the future. Current Opinion in Behavioral Sciences, 2017, 17, 7-13.	3.9	30
80	Where do hypotheses come from?. Cognitive Psychology, 2017, 96, 1-25.	2.2	48
81	Learning the Structure of Social Influence. Cognitive Science, 2017, 41, 545-575.	1.7	86
82	Dopamine, Inference, and Uncertainty. Neural Computation, 2017, 29, 3311-3326.	2.2	36
83	The hippocampus as a predictive map. Nature Neuroscience, 2017, 20, 1643-1653.	14.8	593
84	The successor representation in human reinforcement learning. Nature Human Behaviour, 2017, 1, 680-692.	12.0	250
85	Cost-Benefit Arbitration Between Multiple Reinforcement-Learning Systems. Psychological Science, 2017, 28, 1321-1333.	3.3	150
86	Using computational theory to constrain statistical models of neural data. Current Opinion in Neurobiology, 2017, 46, 14-24.	4.2	16
87	Compositional inductive biases in function learning. Cognitive Psychology, 2017, 99, 44-79.	2.2	55
88	Ingredients of intelligence: From classic debates to an engineering roadmap. Behavioral and Brain Sciences, 2017, 40, e281.	0.7	11
89	Context-dependent learning and causal structure. Psychonomic Bulletin and Review, 2017, 24, 557-565.	2.8	33
90	Reinforcement Learning and Episodic Memory in Humans and Animals: An Integrative Framework. Annual Review of Psychology, 2017, 68, 101-128.	17.7	280

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91	Building machines that learn and think like people. Behavioral and Brain Sciences, 2017, 40, e253.	0.7	978
92	Predictive representations can link model-based reinforcement learning to model-free mechanisms. PLoS Computational Biology, 2017, 13, e1005768.	3.2	203
93	The computational nature of memory modification. ELife, 2017, 6, .	6.0	92
94	Plans, Habits, and Theory of Mind. PLoS ONE, 2016, 11, e0162246.	2.5	21
95	Medial Prefrontal Cortex Updates Its Status. Neuron, 2016, 92, 937-939.	8.1	5
96	A comparative evaluation of off-the-shelf distributed semantic representations for modelling behavioural data. Cognitive Neuropsychology, 2016, 33, 175-190.	1.1	87
97	Discovering hierarchical motion structure. Vision Research, 2016, 126, 232-241.	1.4	33
98	Toward the neural implementation of structure learning. Current Opinion in Neurobiology, 2016, 37, 99-105.	4.2	84
99	Empirical priors for reinforcement learning models. Journal of Mathematical Psychology, 2016, 71, 1-6.	1.8	92
100	When Does Model-Based Control Pay Off?. PLoS Computational Biology, 2016, 12, e1005090.	3.2	142
101	Novelty and Inductive Generalization in Human Reinforcement Learning. Topics in Cognitive Science, 2015, 7, 391-415.	1.9	64
102	Reinforcement Learning in Multidimensional Environments Relies on Attention Mechanisms. Journal of Neuroscience, 2015, 35, 8145-8157.	3.6	284
103	Discovering latent causes in reinforcement learning. Current Opinion in Behavioral Sciences, 2015, 5, 43-50.	3.9	104
104	Computational rationality: A converging paradigm for intelligence in brains, minds, and machines. Science, 2015, 349, 273-278.	12.6	380
105	Do learning rates adapt to the distribution of rewards?. Psychonomic Bulletin and Review, 2015, 22, 1320-1327.	2.8	91
106	Interplay of approximate planning strategies. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3098-3103.	7.1	145
107	Individual differences in learning predict the return of fear. Learning and Behavior, 2015, 43, 243-250.	1.0	42
108	A Unifying Probabilistic View of Associative Learning. PLoS Computational Biology, 2015, 11, e1004567.	3.2	100

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109	Time representation in reinforcement learning models of the basal ganglia. Frontiers in Computational Neuroscience, 2014, 7, 194.	2.1	64
110	Retrospective revaluation in sequential decision making: A tale of two systems.. Journal of Experimental Psychology: General, 2014, 143, 182-194.	2.1	192
111	Dopamine Ramps Are a Consequence of Reward Prediction Errors. Neural Computation, 2014, 26, 467-471.	2.2	56
112	Explaining compound generalization in associative and causal learning through rational principles of dimensional generalization.. Psychological Review, 2014, 121, 526-558.	3.8	60
113	Statistical Computations Underlying the Dynamics of Memory Updating. PLoS Computational Biology, 2014, 10, e1003939.	3.2	70
114	The penumbra of learning: A statistical theory of synaptic tagging and capture. Network: Computation in Neural Systems, 2014, 25, 97-115.	3.6	4
115	Neural and Psychological Maturation of Decision-making in Adolescence and Young Adulthood. Journal of Cognitive Neuroscience, 2013, 25, 1807-1823.	2.3	98
116	Neural Context Reinstatement Predicts Memory Misattribution. Journal of Neuroscience, 2013, 33, 8590-8595.	3.6	81
117	Moderate levels of activation lead to forgetting in the think/no-think paradigm. Neuropsychologia, 2013, 51, 2371-2388.	1.6	95
118	The Curse of Planning. Psychological Science, 2013, 24, 751-761.	3.3	308
119	Perceptual estimation obeys Occam's razor. Frontiers in Psychology, 2013, 4, 623.	2.1	35
120	Gradual extinction prevents the return of fear: implications for the discovery of state. Frontiers in Behavioral Neuroscience, 2013, 7, 164.	2.0	105
121	Multistability and Perceptual Inference. Neural Computation, 2012, 24, 1-24.	2.2	131
122	The Successor Representation and Temporal Context. Neural Computation, 2012, 24, 1553-1568.	2.2	88
123	Exploring a latent cause theory of classical conditioning. Learning and Behavior, 2012, 40, 255-268.	1.0	102
124	A tutorial on Bayesian nonparametric models. Journal of Mathematical Psychology, 2012, 56, 1-12.	1.8	430
125	A topographic latent source model for fMRI data. NeuroImage, 2011, 57, 89-100.	4.2	29
126	Model-Based Influences on Humans' Choices and Striatal Prediction Errors. Neuron, 2011, 69, 1204-1215.	8.1	1,388

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127	Human memory reconsolidation can be explained using the temporal context model. Psychonomic Bulletin and Review, 2011, 18, 455-468.	2.8	94
128	Context, learning, and extinction.. Psychological Review, 2010, 117, 197-209.	3.8	275
129	Learning latent structure: carving nature at its joints. Current Opinion in Neurobiology, 2010, 20, 251-256.	4.2	242
130	Human Reinforcement Learning Subdivides Structured Action Spaces by Learning Effector-Specific Values. Journal of Neuroscience, 2009, 29, 13524-13531.	3.6	112