

# Marcus Hutter

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3958193/publications.pdf>

Version: 2024-02-01

117  
papers

2,156  
citations

586496

16  
h-index

325983

40  
g-index

131  
all docs

131  
docs citations

131  
times ranked

1461  
citing authors

#	ARTICLE	IF	CITATIONS
1	Reward-Punishment Symmetric Universal Intelligence. Lecture Notes in Computer Science, 2022, , 1-10.	1.0	2
2	Reward tampering problems and solutions in reinforcement learning: a causal influence diagram perspective. Synthèse, 2021, 198, 6435-6467.	0.6	18
3	Curiosity Killed or Incapacitated the Cat and the Asymptotically Optimal Agent. IEEE Journal on Selected Areas in Information Theory, 2021, 2, 665-677.	1.9	0
4	Intelligence and Unambitiousness Using Algorithmic Information Theory. IEEE Journal on Selected Areas in Information Theory, 2021, 2, 678-690.	1.9	1
5	Feature Reinforcement Learning: Part II. Structured MDPs. Journal of Artificial General Intelligence, 2021, 12, 71-86.	0.6	0
6	Asymptotically Unambitious Artificial General Intelligence. Proceedings of the AAAI Conference on Artificial Intelligence, 2020, 34, 2467-2476.	3.6	5
7	Performance Guarantees for Homomorphisms beyond Markov Decision Processes. Proceedings of the AAAI Conference on Artificial Intelligence, 2019, 33, 7659-7666.	3.6	1
8	A Strongly Asymptotically Optimal Agent in General Environments. , 2019, , .		3
9	On the computability of Solomonoff induction and AIXI. Theoretical Computer Science, 2018, 716, 28-49.	0.5	2
10	Universal Compression of Piecewise i.i.d. Sources. , 2018, , .		0
11	Universal Artificial Intelligence. Studies in Systems, Decision and Control, 2018, , 15-46.	0.8	14
12	On Q-learning Convergence for Non-Markov Decision Processes. , 2018, , .		9
13	A Game-Theoretic Analysis of the Off-Switch Game. Lecture Notes in Computer Science, 2017, , 167-177.	1.0	3
14	On Thompson Sampling and Asymptotic Optimality. , 2017, , .		58
15	Universal Learning Theory. , 2017, , 1295-1304.		0
16	Universal Reinforcement Learning Algorithms: Survey and Experiments. , 2017, , .		6
17	Discriminative Hierarchical Rank Pooling for Activity Recognition. , 2016, , .		63
18	Extreme state aggregation beyond Markov decision processes. Theoretical Computer Science, 2016, 650, 73-91.	0.5	4

#	ARTICLE	IF	CITATIONS
19	Self-Modification of Policy and Utility Function in Rational Agents. Lecture Notes in Computer Science, 2016, , 1-11.	1.0	6
20	Death and Suicide in Universal Artificial Intelligence. Lecture Notes in Computer Science, 2016, , 23-32.	1.0	4
21	Avoiding Wireheading with Value Reinforcement Learning. Lecture Notes in Computer Science, 2016, , 12-22.	1.0	7
22	Universal Learning Theory. , 2016, , 1-9.		0
23	Analytical Results on the BFS vs. DFS Algorithm Selection Problem: Part II: Graph Search. Lecture Notes in Computer Science, 2015, , 166-178.	1.0	6
24	Algorithmic Complexity. , 2015, , 534-538.		0
25	On Martin-Löf (non-)convergence of Solomonoff's universal mixture. Theoretical Computer Science, 2015, 588, 2-15.	0.5	1
26	Sequential Extensions of Causal and Evidential Decision Theory. Lecture Notes in Computer Science, 2015, , 205-221.	1.0	4
27	Solomonoff Induction Violates Nicod's Criterion. Lecture Notes in Computer Science, 2015, , 349-363.	1.0	1
28	Analytical Results on the BFS vs. DFS Algorithm Selection Problem. Part I: Tree Search. Lecture Notes in Computer Science, 2015, , 157-165.	1.0	10
29	On the Computability of Solomonoff Induction and Knowledge-Seeking. Lecture Notes in Computer Science, 2015, , 364-378.	1.0	0
30	Using Localization and Factorization to Reduce the Complexity of Reinforcement Learning. Lecture Notes in Computer Science, 2015, , 177-186.	1.0	0
31	Reflective Features Detection and Hierarchical Reflections Separation in Image Sequences. , 2014, , .		1
32	Free Lunch for optimisation under the universal distribution. , 2014, , .		5
33	Near-optimal PAC bounds for discounted MDPs. Theoretical Computer Science, 2014, 558, 125-143.	0.5	16
34	General time consistent discounting. Theoretical Computer Science, 2014, 519, 140-154.	0.5	13
35	Can we measure the difficulty of an optimization problem?. , 2014, , .		4
36	Bayesian Reinforcement Learning with Exploration. Lecture Notes in Computer Science, 2014, , 170-184.	1.0	2

#	ARTICLE	IF	CITATIONS
37	Probabilities on Sentences in an Expressive Logic. <i>Journal of Applied Logic</i> , 2013, 11, 386-420.	1.1	6
38	On Martin-Löf Convergence of Solomonoff's Mixture. <i>Lecture Notes in Computer Science</i> , 2013, , 212-223.	1.0	1
39	Universal Knowledge-Seeking Agents for Stochastic Environments. <i>Lecture Notes in Computer Science</i> , 2013, , 158-172.	1.0	15
40	No Free Lunch versus Occam's Razor in Supervised Learning. <i>Lecture Notes in Computer Science</i> , 2013, , 223-235.	1.0	12
41	(Non-)Equivalence of Universal Priors. <i>Lecture Notes in Computer Science</i> , 2013, , 417-425.	1.0	6
42	Principles of Solomonoff Induction and AIXI. <i>Lecture Notes in Computer Science</i> , 2013, , 386-398.	1.0	1
43	A Noise Tolerant Watershed Transformation with Viscous Force for Seeded Image Segmentation. <i>Lecture Notes in Computer Science</i> , 2013, , 775-789.	1.0	0
44	Concentration and Confidence for Discrete Bayesian Sequence Predictors. <i>Lecture Notes in Computer Science</i> , 2013, , 324-338.	1.0	1
45	Learning Agents with Evolving Hypothesis Classes. <i>Lecture Notes in Computer Science</i> , 2013, , 150-159.	1.0	1
46	The Subjective Computable Universe. , 2012, , 399-416.		4
47	Context Tree Switching. , 2012, , .		13
48	Adaptive Context Tree Weighting. , 2012, , .		6
49	Feature Reinforcement Learning in Practice. <i>Lecture Notes in Computer Science</i> , 2012, , 66-77.	1.0	7
50	PAC Bounds for Discounted MDPs. <i>Lecture Notes in Computer Science</i> , 2012, , 320-334.	1.0	67
51	One Decade of Universal Artificial Intelligence. <i>Atlantis Thinking Machines</i> , 2012, , 67-88.	0.5	15
52	Optimistic AIXI. <i>Lecture Notes in Computer Science</i> , 2012, , 312-321.	1.0	2
53	Optimistic Agents Are Asymptotically Optimal. <i>Lecture Notes in Computer Science</i> , 2012, , 15-26.	1.0	5
54	On Ensemble Techniques for AIXI Approximation. <i>Lecture Notes in Computer Science</i> , 2012, , 341-351.	1.0	1

#	ARTICLE	IF	CITATIONS
55	3D Model Assisted Image Segmentation. , 2011, , .		3
56	A Novel Illumination-Invariant Loss for Monocular 3D Pose Estimation. , 2011, , .		4
57	Asymptotically Optimal Agents. Lecture Notes in Computer Science, 2011, , 368-382.	1.0	10
58	A Philosophical Treatise of Universal Induction. Entropy, 2011, 13, 1076-1136.	1.1	63
59	Time Consistent Discounting. Lecture Notes in Computer Science, 2011, , 383-397.	1.0	4
60	Axioms for Rational Reinforcement Learning. Lecture Notes in Computer Science, 2011, , 338-352.	1.0	5
61	A Complete Theory of Everything (Will Be Subjective). Algorithms, 2010, 3, 329-350.	1.2	16
62	An integrated Bayesian analysis of LOH and copy number data. BMC Bioinformatics, 2010, 11, 321.	1.2	8
63	Model selection with the Loss Rank Principle. Computational Statistics and Data Analysis, 2010, 54, 1288-1306.	0.7	3
64	Featureless 2D&#x2013;3D pose estimation by minimising an illumination-invariant loss. , 2010, , .		2
65	Consistency of Feature Markov Processes. Lecture Notes in Computer Science, 2010, , 360-374.	1.0	7
66	OBSERVER LOCALIZATION IN MULTIVERSE THEORIES. , 2010, , .		1
67	Open Problems in Universal Induction & Intelligence. Algorithms, 2009, 2, 879-906.	1.2	16
68	Bayesian DNA copy number analysis. BMC Bioinformatics, 2009, 10, 10.	1.2	51
69	Practical robust estimators for the imprecise Dirichlet model. International Journal of Approximate Reasoning, 2009, 50, 231-242.	1.9	2
70	Limits of learning about a categorical latent variable under prior near-ignorance. International Journal of Approximate Reasoning, 2009, 50, 597-611.	1.9	15
71	A New Local Distance-Based Outlier Detection Approach for Scattered Real-World Data. Lecture Notes in Computer Science, 2009, , 813-822.	1.0	229
72	Matching 2-D ellipses to 3-D circles with application to vehicle pose identification. , 2009, , .		18

#	ARTICLE	IF	CITATIONS
73	Feature Reinforcement Learning: Part I. Unstructured MDPs. Journal of Artificial General Intelligence, 2009, 1, .	0.6	25
74	Feature Dynamic Bayesian Networks. , 2009, , .		8
75	Feature Markov Decision Processes. , 2009, , .		4
76	Predicting non-stationary processes. Applied Mathematics Letters, 2008, 21, 477-482.	1.5	7
77	On the possibility of learning in reactive environments with arbitrary dependence. Theoretical Computer Science, 2008, 405, 274-284.	0.5	5
78	Equivalence of probabilistic tournament and polynomial ranking selection. , 2008, , .		7
79	Algorithmic complexity. Scholarpedia Journal, 2008, 3, 2573.	0.3	4
80	On Sequence Prediction for Arbitrary Measures. , 2007, , .		10
81	Exact Bayesian regression of piecewise constant functions. Bayesian Analysis, 2007, 2, .	1.6	26
82	On semimeasures predicting Martin-Löf random sequences. Theoretical Computer Science, 2007, 382, 247-261.	0.5	21
83	On universal prediction and Bayesian confirmation. Theoretical Computer Science, 2007, 384, 33-48.	0.5	71
84	Algorithmic complexity bounds on future prediction errors. Information and Computation, 2007, 205, 242-261.	0.5	5
85	Universal Intelligence: A Definition of Machine Intelligence. Minds and Machines, 2007, 17, 391-444.	2.7	358
86	Universal Algorithmic Intelligence: A Mathematical Top-Down Approach. , 2007, , 227-290.		36
87	Tests of Machine Intelligence. Lecture Notes in Computer Science, 2007, , 232-242.	1.0	11
88	Algorithmic information theory. Scholarpedia Journal, 2007, 2, 2519.	0.3	11
89	Algorithmic probability. Scholarpedia Journal, 2007, 2, 2572.	0.3	7
90	The Loss Rank Principle for Model Selection. Lecture Notes in Computer Science, 2007, , 589-603.	1.0	0

#	ARTICLE	IF	CITATIONS
91	Fitness uniform optimization. IEEE Transactions on Evolutionary Computation, 2006, 10, 568-589.	7.5	58
92	Hybrid rounding techniques for knapsack problems. Discrete Applied Mathematics, 2006, 154, 640-649.	0.5	11
93	Sequential predictions based on algorithmic complexity. Journal of Computer and System Sciences, 2006, 72, 95-117.	0.9	7
94	On generalized computable universal priors and their convergence. Theoretical Computer Science, 2006, 364, 27-41.	0.5	2
95	MDL convergence speed for Bernoulli sequences. Statistics and Computing, 2006, 16, 161-175.	0.8	12
96	On the Foundations of Universal Sequence Prediction. Lecture Notes in Computer Science, 2006, , 408-420.	1.0	9
97	General Discounting Versus Average Reward. Lecture Notes in Computer Science, 2006, , 244-258.	1.0	5
98	Asymptotic Learnability of Reinforcement Problems with Arbitrary Dependence. Lecture Notes in Computer Science, 2006, , 334-347.	1.0	3
99	Distribution of mutual information from complete and incomplete data. Computational Statistics and Data Analysis, 2005, 48, 633-657.	0.7	46
100	Robust inference of trees. Annals of Mathematics and Artificial Intelligence, 2005, 45, 215-239.	0.9	4
101	Fitness uniform deletion. , 2005, , .		5
102	Defensive Universal Learning with Experts. Lecture Notes in Computer Science, 2005, , 356-370.	1.0	10
103	Monotone Conditional Complexity Bounds on Future Prediction Errors. Lecture Notes in Computer Science, 2005, , 414-428.	1.0	2
104	Convergence of Discrete MDL for Sequential Prediction. Lecture Notes in Computer Science, 2004, , 300-314.	1.0	8
105	Prediction with Expert Advice by Following the Perturbed Leader for General Weights. Lecture Notes in Computer Science, 2004, , 279-293.	1.0	15
106	Universal Convergence of Semimeasures on Individual Random Sequences. Lecture Notes in Computer Science, 2004, , 234-248.	1.0	5
107	Sequence Prediction Based on Monotone Complexity. Lecture Notes in Computer Science, 2003, , 506-521.	1.0	10
108	On the Existence and Convergence of Computable Universal Priors. Lecture Notes in Computer Science, 2003, , 298-312.	1.0	9

#	ARTICLE	IF	CITATIONS
109	An Open Problem Regarding the Convergence of Universal A Priori Probability. Lecture Notes in Computer Science, 2003, , 738-740.	1.0	3
110	THE FASTEST AND SHORTEST ALGORITHM FOR ALL WELL-DEFINED PROBLEMS. International Journal of Foundations of Computer Science, 2002, 13, 431-443.	0.8	80
111	Self-Optimizing and Pareto-Optimal Policies in General Environments Based on Bayes-Mixtures. Lecture Notes in Computer Science, 2002, , 364-379.	1.0	21
112	New Error Bounds for Solomonoff Prediction. Journal of Computer and System Sciences, 2001, 62, 653-667.	0.9	24
113	Towards a Universal Theory of Artificial Intelligence Based on Algorithmic Probability and Sequential Decisions. Lecture Notes in Computer Science, 2001, , 226-238.	1.0	23
114	Convergence and Error Bounds for Universal Prediction of Nonbinary Sequences. Lecture Notes in Computer Science, 2001, , 239-250.	1.0	16
115	Family structure from periodic solutions of an improved gap equation. Nuclear Physics B, 1997, 484, 80-96.	0.9	7
116	Instantons and meson correlation functions in QCD. Zeitschrift für Physik C-Particles and Fields, 1997, 74, 131-143.	1.5	4
117	The mass of the $\hat{\Lambda}^2$ in self-dual QCD. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 367, 275-278.	1.5	1