Jeff Clune

List of Publications by Year
in descending order

51 papers	5,660 citations	361296 20 h-index	526166 27 g-index
54 all docs	54 docs citations	54 times ranked	5128 citing authors

#	Article	IF	Citations
1	Deep neural networks are easily fooled: High confidence predictions for unrecognizable images. , 2015, , .		1,469
2	Robots that can adapt like animals. Nature, 2015, 521, 503-507.	13.7	646
3	Automatically identifying, counting, and describing wild animals in camera-trap images with deep learning. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E5716-E5725.	3.3	630
4	The evolutionary origins of modularity. Proceedings of the Royal Society B: Biological Sciences, 2013, 280, 20122863.	1.2	414
5	Designing neural networks through neuroevolution. Nature Machine Intelligence, 2019, 1, 24-35.	8.3	406
6	Machine learning to classify animal species in camera trap images: Applications in ecology. Methods in Ecology and Evolution, 2019, 10, 585-590.	2.2	262
7	Unshackling evolution. , 2013, , .		156
8	Neural Modularity Helps Organisms Evolve to Learn New Skills without Forgetting Old Skills. PLoS Computational Biology, 2015, 11, e1004128.	1.5	109
9	On the Performance of Indirect Encoding Across the Continuum of Regularity. IEEE Transactions on Evolutionary Computation, 2011, 15, 346-367.	7.5	106
10	First return, then explore. Nature, 2021, 590, 580-586.	13.7	103
11	The Evolutionary Origins of Hierarchy. PLoS Computational Biology, 2016, 12, e1004829.	1.5	94
12	The Surprising Creativity of Digital Evolution: A Collection of Anecdotes from the Evolutionary Computation and Artificial Life Research Communities. Artificial Life, 2020, 26, 274-306.	1.0	88
13	Evolving coordinated quadruped gaits with the HyperNEAT generative encoding. , 2009, , .		87
14	A deep active learning system for species identification and counting in camera trap images. Methods in Ecology and Evolution, 2021, 12, 150-161.	2.2	83
15	Natural Selection Fails to Optimize Mutation Rates for Long-Term Adaptation on Rugged Fitness Landscapes. PLoS Computational Biology, 2008, 4, e1000187.	1.5	80
16	Unshackling evolution. ACM SIGEVOlution, 2014, 7, 11-23.	0.3	79
17	How evolution learns to generalise: Using the principles of learning theory to understand the evolution of developmental organisation. PLoS Computational Biology, 2017, 13, e1005358.	1.5	70
18	Biological underpinnings for lifelong learning machines. Nature Machine Intelligence, 2022, 4, 196-210.	8.3	62

#	Article	IF	Citations
19	Innovation Engines. , 2015, , .		55
20	Evolving 3D objects with a generative encoding inspired by developmental biology. ACM SIGEVOlution, 2011, 5, 2-12.	0.3	53
21	Safe mutations for deep and recurrent neural networks through output gradients. , 2018, , .		41
22	The sensitivity of HyperNEAT to different geometric representations of a problem. , 2009, , .		36
23	Evolving neural networks that are both modular and regular. , 2014, , .		36
24	Evolved Electrophysiological Soft Robots. , 0, , .		35
25	Improving the accessibility and transferability of machine learning algorithms for identification of animals in camera trap images: MLWIC2. Ecology and Evolution, 2020, 10, 10374-10383.	0.8	33
26	Investigating whether hyperNEAT produces modular neural networks. , 2010, , .		31
27	POET. , 2019, , .		30
28	Diffusion-based neuromodulation can eliminate catastrophic forgetting in simple neural networks. PLoS ONE, 2017, 12, e0187736.	1.1	28
29	Selective pressures for accurate altruism targeting: evidence from digital evolution for difficult-to-test aspects of inclusive fitness theory. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 666-674.	1.2	27
30	The Surprising Creativity of Digital Evolution. , 2018, , .		27
31	How do Different Encodings Influence the Performance of the MAP-Elites Algorithm?. , 2016, , .		26
32	Evolving Gaits for Physical Robots with the HyperNEAT Generative Encoding: The Benefits of Simulation. Lecture Notes in Computer Science, 2013, , 540-549.	1.0	25
33	Investigations in meta-GAs. , 2005, , .		22
34	Ontogeny Tends to Recapitulate Phylogeny in Digital Organisms. American Naturalist, 2012, 180, E54-E63.	1.0	22
35	Natural selection fails to optimize mutation rates for long-term adaptation on rugged fitness landscapes. , 2013, , .		21
36	ES is more than just a traditional finite-difference approximator. , 2018, , .		18

#	Article	IF	Citations
37	Novelty search creates robots with general skills for exploration. , 2014, , .		17
38	How a Generative Encoding Fares as Problem-Regularity Decreases. Lecture Notes in Computer Science, 2008, , 358-367.	1.0	17
39	Does Aligning Phenotypic and Genotypic Modularity Improve the Evolution of Neural Networks?. , 2016, , .		14
40	Evolvability Search. , 2016, , .		14
41	Curiosity Search: Producing Generalists by Encouraging Individuals to Continually Explore and Acquire Skills throughout Their Lifetime. PLoS ONE, 2016, 11, e0162235.	1.1	13
42	Neuromodulation Improves the Evolution of Forward Models. , 2016, , .		12
43	Upload any object and evolve it: Injecting complex geometric patterns into CPPNS for further evolution. , 2013, , .		9
44	The Emergence of Canalization and Evolvability in an Open-Ended, Interactive Evolutionary System. Artificial Life, 2018, 24, 157-181.	1.0	9
45	HybrID: A Hybridization of Indirect and Direct Encodings for Evolutionary Computation. Lecture Notes in Computer Science, 2011, , 134-141.	1.0	8
46	WebAL Comes of Age: A Review of the First 21 Years of Artificial Life on the Web. Artificial Life, 2016, 22, 364-407.	1.0	7
47	Encouraging creative thinking in robots improves their ability to solve challenging problems. , 2014, , .		6
48	Improving HybrID: How to best combine indirect and direct encoding in evolutionary algorithms. PLoS ONE, 2017, 12, e0174635.	1.1	6
49	Identifying Core Functional Networks and Functional Modules within Artificial Neural Networks via Subsets Regression. , 2016, , .		3
50	Automated generation of environments to test the general learning capabilities of AI agents. , 2014, , .		2
51	A method to improve signal quality in wireless ad-hoc networks with limited mobility. , 2015, , .		1