

Wolfgang Banzhaf

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

160
papers

4,340
citations

29
h-index

62
g-index

181
ext. papers

5,133
ext. citations

2.4
avg, IF

5.74
L-index

#	Paper	IF	Citations
160	From Dynamics to Novelty: An Agent-Based Model of the Economic System.. <i>Artificial Life</i> , 2022 , 1-38	1.4	1
159	Evolving hierarchical memory-prediction machines in multi-task reinforcement learning. <i>Genetic Programming and Evolvable Machines</i> , 2021 , 22, 573	2	0
158	. <i>IEEE Transactions on Evolutionary Computation</i> , 2021 , 25, 277-291	15.6	32
157	Expensive Multi-Objective Evolutionary Optimization Assisted by Dominance Prediction. <i>IEEE Transactions on Evolutionary Computation</i> , 2021 , 1-1	15.6	4
156	The effects of taxes on wealth inequality in Artificial Chemistry models of economic activity. <i>PLoS ONE</i> , 2021 , 16, e0255719	3.7	0
155	Emergent Tangled Program Graphs in Partially Observable Recursive Forecasting and ViZDoom Navigation Tasks. <i>ACM Transactions on Evolutionary Learning</i> , 2021 , 1, 1-41		1
154	Neural Architecture Transfer. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2021 , 43, 2971-2989	13.3	12
153	Temporal Memory Sharing in Visual Reinforcement Learning. <i>Genetic and Evolutionary Computation</i> , 2020 , 101-119	0.8	4
152	An Evolutionary System for Better Automatic Software Repair. <i>Genetic and Evolutionary Computation</i> , 2020 , 383-406	0.8	
151	A network perspective on genotype-phenotype mapping in genetic programming. <i>Genetic Programming and Evolvable Machines</i> , 2020 , 21, 375-397	2	5
150	ARJA: Automated Repair of Java Programs via Multi-Objective Genetic Programming. <i>IEEE Transactions on Software Engineering</i> , 2020 , 46, 1040-1067	3.5	27
149	Batch tournament selection for genetic programming 2019 ,		4
148	Complex Network Analysis of a Genetic Programming Phenotype Network. <i>Lecture Notes in Computer Science</i> , 2019 , 49-63	0.9	1
147	NSGA-Net 2019 ,		114
146	An Intelligent Model for the Prediction of Bond Strength of FRP Bars in Concrete: A Soft Computing Approach. <i>Technologies</i> , 2019 , 7, 42	2.4	8
145	Prediction of normalized signal strength on DNA sequencing microarrays by n-grams within a neural network model. <i>Bioinformatics</i> , 2019 , 15, 388-393	1.1	
144	Artificial Gene Regulatory Networks-A Review. <i>Artificial Life</i> , 2018 , 24, 296-328	1.4	12

143	Drone Squadron Optimization: a novel self-adaptive algorithm for global numerical optimization. <i>Neural Computing and Applications</i> , 2018 , 30, 3117-3144	4.8	21
142	Neutrality, Robustness, and Evolvability in Genetic Programming. <i>Genetic and Evolutionary Computation</i> , 2018 , 101-117	0.8	9
141	Some Remarks on Code Evolution with Genetic Programming. <i>Emergence, Complexity and Computation</i> , 2018 , 145-156	0.1	
140	Automatic feature engineering for regression models with machine learning: An evolutionary computation and statistics hybrid. <i>Information Sciences</i> , 2018 , 430-431, 287-313	7.7	12
139	Evolving Adaptive Traffic Signal Controllers for a Real Scenario Using Genetic Programming with an Epigenetic Mechanism 2017 ,		5
138	A hybrid genetic programming decision making system for RoboCup soccer simulation 2017 ,		1
137	Quantitative Analysis of Evolvability using Vertex Centralities in Phenotype Network 2016 ,		3
136	Kaizen Programming for Feature Construction for Classification. <i>Genetic and Evolutionary Computation</i> , 2016 , 39-57	0.8	2
135	Human recognition through walking styles by multiwavelet transform 2016 ,		1
134	Defining and simulating open-ended novelty: requirements, guidelines, and challenges. <i>Theory in Biosciences</i> , 2016 , 135, 131-61	1.3	34
133	Open-Ended Evolution: Perspectives from the OEE Workshop in York. <i>Artificial Life</i> , 2016 , 22, 408-23	1.4	45
132	Artificial Intelligence: Genetic Programming 2015 , 41-45		0
131	Predicting High-Performance Concrete Compressive Strength Using Features Constructed by Kaizen Programming 2015 ,		5
130	Artificial Chemistries 2015 ,		26
129	Cache consensus: rapid object sorting by a robotic swarm. <i>Swarm Intelligence</i> , 2014 , 8, 61-87	3	9
128	Genetic Programming and Emergence. <i>Genetic Programming and Evolvable Machines</i> , 2014 , 15, 63-73	2	14
127	The effects of recombination on phenotypic exploration and robustness in evolution. <i>Artificial Life</i> , 2014 , 20, 457-70	1.4	11
126	Population Exploration on Genotype Networks in Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2014 , 424-433	0.9	1

125	Evolutionary Computation and Genetic Programming 2013 , 429-447		3
124	Robustness and Evolvability of Recombination in Linear Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2013 , 97-108	0.9	4
123	Artificial Chemistries on GPU. <i>Natural Computing Series</i> , 2013 , 389-419	2.5	
122	Evolutionary dynamics on multiple scales: a quantitative analysis of the interplay between genotype, phenotype, and fitness in linear genetic programming. <i>Genetic Programming and Evolvable Machines</i> , 2012 , 13, 305-337	2	22
121	The unconstrained automated generation of cell image features for medical diagnosis 2012 ,		3
120	Artificial Life 2012 , 1805-1834		3
119	Mechanisms for Complex Systems Engineering Through Artificial Development. <i>Understanding Complex Systems</i> , 2012 , 331-351	0.4	4
118	Evolving Reaction-Diffusion Systems on GPU. <i>Lecture Notes in Computer Science</i> , 2011 , 208-223	0.9	2
117	Hardware Acceleration for CGP: Graphics Processing Units. <i>Natural Computing Series</i> , 2011 , 231-253	2.5	4
116	Robustness, Evolvability, and Accessibility in Linear Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2011 , 13-24	0.9	9
115	Recovery properties of distributed cluster head election using reaction-diffusion. <i>Swarm Intelligence</i> , 2011 , 5, 225-255	3	5
114	A Survey of Self Modifying Cartesian Genetic Programming. <i>Genetic and Evolutionary Computation</i> , 2011 , 91-107	0.8	7
113	Implementing cartesian genetic programming classifiers on graphics processing units using GPU.NET 2011 ,		7
112	Stock trading using linear genetic programming with multiple time frames 2011 ,		2
111	Self-Modifying Cartesian Genetic Programming. <i>Natural Computing Series</i> , 2011 , 101-124	2.5	11
110	Risk factors for cervical precancer and cancer in HIV-infected, HPV-positive Rwandan women. <i>PLoS ONE</i> , 2010 , 5, e13525	3.7	25
109	WiMAX Network Planning Using Adaptive-Population-Size Genetic Algorithm. <i>Lecture Notes in Computer Science</i> , 2010 , 31-40	0.9	6
108	Fast and effective predictability filters for stock price series using linear genetic programming 2010 ,		3

107	Interday foreign exchange trading using linear genetic programming 2010 ,		3
106	Self modifying cartesian genetic programming 2010 ,		11
105	Evolvability and Speed of Evolutionary Algorithms in Light of Recent Developments in Biology. <i>Journal of Artificial Evolution and Applications</i> , 2010 , 2010, 1-28		20
104	Deployment of parallel linear genetic programming using GPUs on PC and video game console platforms. <i>Genetic Programming and Evolvable Machines</i> , 2010 , 11, 147-184	2	6
103	Variable population size and evolution acceleration: a case study with a parallel evolutionary algorithm. <i>Genetic Programming and Evolvable Machines</i> , 2010 , 11, 205-225	2	19
102	Open issues in genetic programming. <i>Genetic Programming and Evolvable Machines</i> , 2010 , 11, 339-363	2	143
101	Developments in Cartesian Genetic Programming: self-modifying CGP. <i>Genetic Programming and Evolvable Machines</i> , 2010 , 11, 397-439	2	39
100	The use of computational intelligence in intrusion detection systems: A review. <i>Applied Soft Computing Journal</i> , 2010 , 10, 1-35	7.5	401
99	An informed genetic algorithm for the examination timetabling problem. <i>Applied Soft Computing Journal</i> , 2010 , 10, 457-467	7.5	48
98	Evolving Genes to Balance a Pole. <i>Lecture Notes in Computer Science</i> , 2010 , 196-207	0.9	29
97	Interday and Intraday Stock Trading Using Probabilistic Adaptive Mapping Developmental Genetic Programming and Linear Genetic Programming. <i>Studies in Computational Intelligence</i> , 2010 , 191-212	0.8	3
96	Algorithmic Trading with Developmental and Linear Genetic Programming. <i>Genetic and Evolutionary Computation</i> , 2010 , 119-134	0.8	0
95	THE USE OF EVOLUTIONARY COMPUTATION IN KNOWLEDGE DISCOVERY: THE EXAMPLE OF INTRUSION DETECTION SYSTEMS. <i>Advances in Computer Science and Engineering</i> , 2010 , 27-59		
94	Discovery of email communication networks from the Enron corpus with a genetic algorithm using social network analysis 2009 ,		16
93	Self modifying Cartesian Genetic Programming: Parity 2009 ,		14
92	Deployment of CPU and GPU-based genetic programming on heterogeneous devices 2009 ,		11
91	Evolution, development and learning using self-modifying cartesian genetic programming 2009 ,		9
90	Neutrality and variability 2009 ,		10

89	A study of heuristic combinations for hyper-heuristic systems for the uncapacitated examination timetabling problem. <i>European Journal of Operational Research</i> , 2009 , 197, 482-491	5.6	61
88	Evolving novel image features using Genetic Programming-based image transforms 2009 ,		22
87	Augmenting artificial development with local fitness 2009 ,		4
86	Self Modifying Cartesian Genetic Programming: Fibonacci, Squares, Regression and Summing. <i>Lecture Notes in Computer Science</i> , 2009 , 133-144	0.9	22
85	Artificial Development. <i>Understanding Complex Systems</i> , 2009 , 201-219	0.4	4
84	Prediction of Interday Stock Prices Using Developmental and Linear Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2009 , 172-181	0.9	7
83	The Role of Population Size in Rate of Evolution in Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2009 , 85-96	0.9	9
82	Accelerating Genetic Programming through Graphics Processing Units.. <i>Genetic and Evolutionary Computation</i> , 2009 , 1-19	0.8	15
81	A Comparison of Cartesian Genetic Programming and Linear Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2008 , 182-193	0.9	9
80	Linear Genetic Programming GPGPU on Microsoft's Xbox 360 2008 ,		16
79	Measuring rate of evolution in genetic programming using amino acid to synonymous substitution ratio k_a/k_s 2008 ,		1
78	Evolving blackbox quantum algorithms using genetic programming. <i>Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM</i> , 2008 , 22, 285-297	1.3	8
77	An eigen analysis of the GP community. <i>Genetic Programming and Evolvable Machines</i> , 2008 , 9, 171-182	2	4
76	A SIMD Interpreter for Genetic Programming on GPU Graphics Cards. <i>Lecture Notes in Computer Science</i> , 2008 , 73-85	0.9	59
75	A Developmental Approach to the Uncapacitated Examination Timetabling Problem. <i>Lecture Notes in Computer Science</i> , 2008 , 276-285	0.9	7
74	Nonsynonymous to Synonymous Substitution Ratio (k_a/k_s): Measurement for Rate of Evolution in Evolutionary Computation. <i>Lecture Notes in Computer Science</i> , 2008 , 448-457	0.9	8
73	Fast Genetic Programming and Artificial Developmental Systems on GPUs 2007 ,		29
72	Self-modifying cartesian genetic programming 2007 ,		29

71	Why complex systems engineering needs biological development. <i>Complexity</i> , 2007 , 13, 12-21	1.6	9
70	ANALYSIS OF PREFERENTIAL NETWORK MOTIF GENERATION IN AN ARTIFICIAL REGULATORY NETWORK MODEL CREATED BY DUPLICATION AND DIVERGENCE. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 2007 , 10, 155-172	0.8	4
69	A Genetic Programming Approach to the Generation of Hyper-Heuristics for the Uncapacitated Examination Timetabling Problem 2007 , 223-234		15
68	Reducing the number of fitness evaluations in graph genetic programming using a canonical graph indexed database. <i>Evolutionary Computation</i> , 2007 , 15, 199-221	4.3	13
67	Fast Genetic Programming on GPUs 2007 , 90-101		51
66	Network topology and the evolution of dynamics in an artificial genetic regulatory network model created by whole genome duplication and divergence. <i>BioSystems</i> , 2006 , 85, 177-200	1.9	66
65	Guidelines: From artificial evolution to computational evolution: a research agenda. <i>Nature Reviews Genetics</i> , 2006 , 7, 729-35	30.1	95
64	Evolution on Neutral Networks in Genetic Programming 2006 , 207-221		19
63	Evolving Noisy Oscillatory Dynamics in Genetic Regulatory Networks. <i>Lecture Notes in Computer Science</i> , 2006 , 290-299	0.9	13
62	Total synthesis of algorithmic chemistries 2005 ,		3
61	Genetic Programming of an Algorithmic Chemistry 2005 , 175-190		13
60	Quantum and classical parallelism in parity algorithms for ensemble quantum computers. <i>Physical Review A</i> , 2005 , 71,	2.6	15
59	An Algorithmic Chemistry for Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2005 , 1-12	0.9	5
58	On Evolutionary Design, Embodiment, and Artificial Regulatory Networks. <i>Lecture Notes in Computer Science</i> , 2004 , 284-292	0.9	6
57	Evolving Dynamics in an Artificial Regulatory Network Model. <i>Lecture Notes in Computer Science</i> , 2004 , 571-580	0.9	16
56	The Challenge of Complexity. <i>Genetic Algorithms and Evolutionary Computation</i> , 2004 , 243-260		13
55	Dynamic subset selection based on a fitness case topology. <i>Evolutionary Computation</i> , 2004 , 12, 223-42	4.3	40
54	Artificial Chemistries ¶Towards Constructive Dynamical Systems. <i>Solid State Phenomena</i> , 2004 , 97-98, 43-50	0.4	9

53	Microarray-based in vitro evaluation of DNA oligomer libraries designed in silico. <i>ChemPhysChem</i> , 2004 , 5, 367-72	3.2	40
52	Comparison of Selection Strategies for Evolutionary Quantum Circuit Design. <i>Lecture Notes in Computer Science</i> , 2004 , 557-568	0.9	5
51	On the Dynamics of an Artificial Regulatory Network. <i>Lecture Notes in Computer Science</i> , 2003 , 217-227	0.9	17
50	Self-Organizing Systems 2003 , 589-598		0
49	How to Program Artificial Chemistries. <i>Lecture Notes in Computer Science</i> , 2003 , 20-30	0.9	
48	Software Tools for DNA Sequence Design. <i>Genetic Programming and Evolvable Machines</i> , 2003 , 4, 153-171		26
47	Genetic Programming and Its Application in Machining Technology. <i>Natural Computing Series</i> , 2003 , 194-241		1
46	More on Computational Effort Statistics for Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2003 , 164-172	0.9	12
45	Decreasing the Number of Evaluations in Evolutionary Algorithms by Using a Meta-model of the Fitness Function. <i>Lecture Notes in Computer Science</i> , 2003 , 264-275	0.9	9
44	Neutral Variations Cause Bloat in Linear GP. <i>Lecture Notes in Computer Science</i> , 2003 , 286-296	0.9	10
43	Evolving Hogg's Quantum Algorithm Using Linear-Tree GP. <i>Lecture Notes in Computer Science</i> , 2003 , 390-400	0.9	8
42	Explicit Control of Diversity and Effective Variation Distance in Linear Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2002 , 37-49	0.9	25
41	Linear-Graph GP - A New GP Structure. <i>Lecture Notes in Computer Science</i> , 2002 , 83-92	0.9	23
40	Evolving Teams of Predictors with Linear Genetic Programming. <i>Genetic Programming and Evolvable Machines</i> , 2001 , 2, 381-407	2	77
39	Artificial chemistries--a review. <i>Artificial Life</i> , 2001 , 7, 225-75	1.4	255
38	Evolving control metabolisms for a robot. <i>Artificial Life</i> , 2001 , 7, 171-90	1.4	29
37	A comparison of linear genetic programming and neural networks in medical data mining. <i>IEEE Transactions on Evolutionary Computation</i> , 2001 , 5, 17-26	15.6	292
36	Stability of Metabolic and Balanced Organisations. <i>Lecture Notes in Computer Science</i> , 2001 , 196-205	0.9	2

35	Survival of the Unfittest? - The Seceder Model and its Fitness Landscape. <i>Lecture Notes in Computer Science</i> , 2001 , 100-109	0.9	1
34	Linear-Tree GP and Its Comparison with Other GP Structures. <i>Lecture Notes in Computer Science</i> , 2001 , 302-312	0.9	18
33	Adaption of Operator Probabilities in Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2001 , 325-336	0.9	10
32	Cryptography with DNA binary strands. <i>BioSystems</i> , 2000 , 57, 13-22	1.9	162
31	Spontaneous group formation in the seceder model. <i>Physical Review Letters</i> , 2000 , 84, 3205-8	7.4	17
30	Genetic programming. <i>IEEE Intelligent Systems</i> , 2000 , 15, 74-84		33
29	Self-organization in a system of binary strings with spatial interactions. <i>Physica D: Nonlinear Phenomena</i> , 1999 , 125, 85-104	3.3	15
28	Meta-Evolution in Graph GP. <i>Lecture Notes in Computer Science</i> , 1999 , 15-28	0.9	13
27	Evolution of a world model for a miniature robot using genetic programming. <i>Robotics and Autonomous Systems</i> , 1998 , 25, 105-116	3.5	38
26	Self-evolution in a constructive binary string system. <i>Artificial Life</i> , 1998 , 4, 203-20	1.4	46
25	Speech sound discrimination with genetic programming. <i>Lecture Notes in Computer Science</i> , 1998 , 113-129	2.9	12
24	Genetic Programming. <i>Lecture Notes in Computer Science</i> , 1998 ,	0.9	683
23	Learning to move a robot with random morphology. <i>Lecture Notes in Computer Science</i> , 1998 , 165-178	0.9	13
22	Towards a Metabolic Robot Control System 1998 , 305-317		3
21	An On-Line Method to Evolve Behavior and to Control a Miniature Robot in Real Time with Genetic Programming. <i>Adaptive Behavior</i> , 1997 , 5, 107-140	1.1	72
20	Emergent computation by catalytic reactions. <i>Nanotechnology</i> , 1996 , 7, 307-314	3.4	33
19	The effect of extensive use of the mutation operator on generalization in genetic programming using sparse data sets. <i>Lecture Notes in Computer Science</i> , 1996 , 300-309	0.9	21
18	Interactive evolution for simulated natural evolution. <i>Lecture Notes in Computer Science</i> , 1996 , 259-272	0.9	5

17	Self-organizing algorithms derived from RNA interactions. <i>Lecture Notes in Computer Science</i> , 1995 , 69-102		5
16	Genotype-phenotype-mapping and neutral variation – A case study in Genetic Programming. <i>Lecture Notes in Computer Science</i> , 1994 , 322-332	0.9	67
15	Self-replicating sequences of binary numbers. <i>Computers and Mathematics With Applications</i> , 1993 , 26, 1-8	2.7	10
14	Self-replicating sequences of binary numbers. Foundations I: General. <i>Biological Cybernetics</i> , 1993 , 69, 269-274	2.8	22
13	Self-replicating sequences of binary numbers. Foundations II: Strings of length N=4. <i>Biological Cybernetics</i> , 1993 , 69, 275-281	2.8	4
12	Robust competitive networks. <i>Physical Review A</i> , 1992 , 45, 4132-4145	2.6	8
11	The time-into-intensity-mapping network. <i>Biological Cybernetics</i> , 1991 , 66, 115-121	2.8	6
10	An energy function for specialization. <i>Physica D: Nonlinear Phenomena</i> , 1990 , 42, 257-264	3.3	4
9	The molecular traveling salesman. <i>Biological Cybernetics</i> , 1990 , 64, 7-14	2.8	91
8	Learning in a competitive network. <i>Neural Networks</i> , 1990 , 3, 423-435	9.1	16
7	A network of multistate units capable of associative memory and pattern classification. <i>Physica D: Nonlinear Phenomena</i> , 1989 , 34, 418-426	3.3	3
6	A new dynamical approach to the travelling salesman problem. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1989 , 136, 45-51	2.3	2
5	Population processing—a powerful class of parallel algorithms. <i>BioSystems</i> , 1989 , 22, 163-72	1.9	1
4	A new learning algorithm for synergetic computers. <i>Biological Cybernetics</i> , 1989 , 62, 107-111	2.8	8
3	On a simple stochastic neuron like unit. <i>Biological Cybernetics</i> , 1988 , 60, 153-160	2.8	4
2	Interactive evolution		5
1	Interactive evolution		10