

Mauro Castelli

List of Publications by Year in descending order

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Version: 2024-02-01

152
papers

2,988
citations

236612

25
h-index

223531

46
g-index

156
all docs

156
docs citations

156
times ranked

1890
citing authors

#	ARTICLE	IF	CITATIONS
1	Genetic programming needs better benchmarks. , 2012, , .		197
2	The impact of big data analytics on firmsâ€™ high value business performance. Information Systems Frontiers, 2018, 20, 209-222.	4.1	183
3	Better GP benchmarks: community survey results and proposals. Genetic Programming and Evolvable Machines, 2013, 14, 3-29.	1.5	178
4	A survey of semantic methods in genetic programming. Genetic Programming and Evolvable Machines, 2014, 15, 195-214.	1.5	130
5	Prediction of high performance concrete strength using Genetic Programming with geometric semantic genetic operators. Expert Systems With Applications, 2013, 40, 6856-6862.	4.4	116
6	A Machine Learning Approach to Predict Air Quality in California. Complexity, 2020, 2020, 1-23.	0.9	107
7	Prediction of energy performance of residential buildings: A genetic programming approach. Energy and Buildings, 2015, 102, 67-74.	3.1	99
8	Transfer Learning with Convolutional Neural Networks for Diabetic Retinopathy Image Classification. A Review. Applied Sciences (Switzerland), 2020, 10, 2021.	1.3	89
9	Measuring bloat, overfitting and functional complexity in genetic programming. , 2010, , .		83
10	A C++ framework for geometric semantic genetic programming. Genetic Programming and Evolvable Machines, 2015, 16, 73-81.	1.5	82
11	A New Implementation of Geometric Semantic GP and Its Application to Problems in Pharmacokinetics. Lecture Notes in Computer Science, 2013, , 205-216.	1.0	80
12	Structural similarity index (SSIM) revisited: A data-driven approach. Expert Systems With Applications, 2022, 189, 116087.	4.4	70
13	Predicting Burned Areas of Forest Fires: an Artificial Intelligence Approach. Fire Ecology, 2015, 11, 106-118.	1.1	62
14	An artificial intelligence system for predicting customer default in e-commerce. Expert Systems With Applications, 2018, 104, 1-21.	4.4	60
15	Semantic Search-Based Genetic Programming and the Effect of Intron Deletion. IEEE Transactions on Cybernetics, 2014, 44, 103-113.	6.2	59
16	Prediction of the Unified Parkinsonâ€™s Disease Rating Scale assessment using a genetic programming system with geometric semantic genetic operators. Expert Systems With Applications, 2014, 41, 4608-4616.	4.4	55
17	How Deeply to Fine-Tune a Convolutional Neural Network: A Case Study Using a Histopathology Dataset. Applied Sciences (Switzerland), 2020, 10, 3359.	1.3	47
18	Comparative Study of First Order Optimizers for Image Classification Using Convolutional Neural Networks on Histopathology Images. Journal of Imaging, 2020, 6, 92.	1.7	44

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19	Geometric Semantic Genetic Programming for Real Life Applications. Genetic and Evolutionary Computation, 2014, , 191-209.	1.0	40
20	Using artificial intelligence methods to assess academic achievement in public high schools of a European Union country. Heliyon, 2020, 6, e04081.	1.4	39
21	Salp Swarm Optimization: A critical review. Expert Systems With Applications, 2022, 189, 116029.	4.4	38
22	Geometric Selective Harmony Search. Information Sciences, 2014, 279, 468-482.	4.0	37
23	Forecasting short-term electricity consumption using a semantics-based genetic programming framework: The South Italy case. Energy Economics, 2015, 47, 37-41.	5.6	34
24	A machine learning approximation of the 2015 Portuguese high school student grades: A hybrid approach. Education and Information Technologies, 2021, 26, 1527-1547.	3.5	33
25	Geometric Semantic Genetic Programming with Local Search. , 2015, , .		31
26	Combinatorial Optimization Problems and Metaheuristics: Review, Challenges, Design, and Development. Applied Sciences (Switzerland), 2021, 11, 6449.	1.3	30
27	Genetic algorithm with variable neighborhood search for the optimal allocation of goods in shop shelves. Operations Research Letters, 2014, 42, 355-360.	0.5	28
28	Multi-objective genetic algorithm with variable neighbourhood search for the electoral redistricting problem. Swarm and Evolutionary Computation, 2017, 36, 37-51.	4.5	28
29	Automatic modeling of a gas turbine using genetic programming: An experimental study. Applied Soft Computing Journal, 2017, 50, 212-222.	4.1	26
30	Learning the Structure of Bayesian Networks: A Quantitative Assessment of the Effect of Different Algorithmic Schemes. Complexity, 2018, 2018, 1-12.	0.9	23
31	An expert system for extracting knowledge from customersâ€™ reviews: The case of Amazon.com, Inc.. Expert Systems With Applications, 2017, 84, 117-126.	4.4	22
32	A Multi-dimensional Genetic Programming Approach for Multi-class Classification Problems. Lecture Notes in Computer Science, 2014, , 48-60.	1.0	22
33	Evolving multidimensional transformations for symbolic regression with M3GP. Memetic Computing, 2019, 11, 111-126.	2.7	21
34	Analysis of the proficiency of fully connected neural networks in the process of classifying digital images. Benchmark of different classification algorithms on high-level image features from convolutional layers. Expert Systems With Applications, 2019, 135, 12-38.	4.4	20
35	A Hybrid End-to-End Approach Integrating Conditional Random Fields into CNNs for Prostate Cancer Detection on MRI. Applied Sciences (Switzerland), 2020, 10, 338.	1.3	19
36	Forecasting performance of regional innovation systems using semantic-based genetic programming with local search optimizer. Computers and Operations Research, 2019, 106, 179-190.	2.4	18

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37	Impact of GAN-based lesion-focused medical image super-resolution on the robustness of radiomic features. <i>Scientific Reports</i> , 2021, 11, 21361.	1.6	18
38	The K landscapes. , 2011, , .		17
39	A hybrid genetic algorithm for the repetition free longest common subsequence problem. <i>Operations Research Letters</i> , 2013, 41, 644-649.	0.5	17
40	Self-tuning geometric semantic Genetic Programming. <i>Genetic Programming and Evolvable Machines</i> , 2016, 17, 55-74.	1.5	17
41	Predicting per capita violent crimes in urban areas: an artificial intelligence approach. <i>Journal of Ambient Intelligence and Humanized Computing</i> , 2017, 8, 29-36.	3.3	17
42	Musculoskeletal Images Classification for Detection of Fractures Using Transfer Learning. <i>Journal of Imaging</i> , 2020, 6, 127.	1.7	17
43	ESAGP – A Semantic GP Framework Based on Alignment in the Error Space. <i>Lecture Notes in Computer Science</i> , 2014, , 150-161.	1.0	16
44	Energy Consumption Forecasting Using Semantic-Based Genetic Programming with Local Search Optimizer. <i>Computational Intelligence and Neuroscience</i> , 2015, 2015, 1-8.	1.1	15
45	Semantic genetic programming for fast and accurate data knowledge discovery. <i>Swarm and Evolutionary Computation</i> , 2016, 26, 1-7.	4.5	15
46	Local Search is Underused in Genetic Programming. <i>Genetic and Evolutionary Computation</i> , 2018, , 119-137.	1.0	15
47	A Quantitative Study of Learning and Generalization in Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2011, , 25-36.	1.0	15
48	A Characteristic-Based Framework for Multiple Sequence Aligners. <i>IEEE Transactions on Cybernetics</i> , 2018, 48, 41-51.	6.2	14
49	Machine learning techniques to predict the effectiveness of music therapy: A randomized controlled trial. <i>Computer Methods and Programs in Biomedicine</i> , 2020, 185, 105160.	2.6	14
50	Improving convolutional neural networks performance for image classification using test time augmentation: a case study using MURA dataset. <i>Health Information Science and Systems</i> , 2021, 9, 33.	3.4	14
51	Machine Learning Applied to Banking Supervision a Literature Review. <i>Risks</i> , 2021, 9, 136.	1.3	14
52	An evolutionary system for ozone concentration forecasting. <i>Information Systems Frontiers</i> , 2017, 19, 1123-1132.	4.1	13
53	Comparing Stacking Ensemble Techniques to Improve Musculoskeletal Fracture Image Classification. <i>Journal of Imaging</i> , 2021, 7, 100.	1.7	13
54	An Efficient Implementation of Geometric Semantic Genetic Programming for Anticoagulation Level Prediction in Pharmacogenetics. <i>Lecture Notes in Computer Science</i> , 2013, , 78-89.	1.0	13

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55	A comparison of the generalization ability of different genetic programming frameworks. , 2010, , .		12
56	Multiobjective Metaheuristic to Design RNA Sequences. IEEE Transactions on Evolutionary Computation, 2019, 23, 156-169.	7.5	12
57	Weighted Hierarchical Grammatical Evolution. IEEE Transactions on Cybernetics, 2020, 50, 476-488.	6.2	12
58	Using artificial intelligence to overcome over-indebtedness and fight poverty. Journal of Business Research, 2021, 131, 411-425.	5.8	12
59	An Artificial Intelligence System to Predict Quality of Service in Banking Organizations. Computational Intelligence and Neuroscience, 2016, 2016, 1-7.	1.1	11
60	Alignment-based genetic programming for real life applications. Swarm and Evolutionary Computation, 2019, 44, 840-851.	4.5	11
61	Genetic programming in the twenty-first century: a bibliometric and content-based analysis from both sides of the fence. Genetic Programming and Evolvable Machines, 2020, 21, 181-204.	1.5	11
62	Land Cover/Land Use Multiclass Classification Using GP with Geometric Semantic Operators. Lecture Notes in Computer Science, 2013, , 334-343.	1.0	11
63	Parameter evaluation of geometric semantic genetic programming in pharmacokinetics. International Journal of Bio-Inspired Computation, 2016, 8, 42.	0.6	10
64	Prediction of relative position of CT slices using a computational intelligence system. Applied Soft Computing Journal, 2016, 46, 537-542.	4.1	10
65	Machine learning for liquidity risk modelling: A supervisory perspective. Economic Analysis and Policy, 2022, 74, 175-187.	3.2	10
66	A geometric semantic genetic programming system for the electoral redistricting problem. Neurocomputing, 2015, 154, 200-207.	3.5	9
67	An initialization technique for geometric semantic GP based on demes evolution and despeciation. , 2017, , .		9
68	The influence of population size in geometric semantic GP. Swarm and Evolutionary Computation, 2017, 32, 110-120.	4.5	9
69	Accurate High Performance Concrete Prediction with an Alignment-Based Genetic Programming System. International Journal of Concrete Structures and Materials, 2018, 12, .	1.4	9
70	Unveiling evolutionary algorithm representation with DU maps. Genetic Programming and Evolvable Machines, 2018, 19, 351-389.	1.5	9
71	Genetic programming with semantic equivalence classes. Swarm and Evolutionary Computation, 2019, 44, 453-469.	4.5	9
72	A Novel Architecture to Classify Histopathology Images Using Convolutional Neural Networks. Applied Sciences (Switzerland), 2020, 10, 2929.	1.3	9

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73	Genetic programming for stacked generalization. Swarm and Evolutionary Computation, 2021, 65, 100913.	4.5	9
74	Unsure when to stop?. , 2017, , .		8
75	GSGP-C++ 2.0: A geometric semantic genetic programming framework. SoftwareX, 2019, 10, 100313.	1.2	8
76	Forecasting Electricity Prices: A Machine Learning Approach. Algorithms, 2020, 13, 119.	1.2	8
77	Algorithmic Music for Therapy: Effectiveness and Perspectives. Applied Sciences (Switzerland), 2021, 11, 8833.	1.3	8
78	Competitive intelligence: A unified view and modular definition. Technological Forecasting and Social Change, 2021, 173, 121086.	6.2	8
79	Object detection for automatic cancer cell counting in zebrafish xenografts. PLoS ONE, 2021, 16, e0260609.	1.1	8
80	How to Exploit Alignment in the Error Space: Two Different GP Models. Genetic and Evolutionary Computation, 2015, , 133-148.	1.0	7
81	Parameterized tractability of the maximum-duo preservation string mapping problem. Theoretical Computer Science, 2016, 646, 16-25.	0.5	7
82	Arbitrarily Close Alignments in the Error Space. , 2016, , .		7
83	Semantic learning machine improves the CNN-Based detection of prostate cancer in non-contrast-enhanced MRI. , 2019, , .		7
84	General Purpose Optimization Library (GPOL): A Flexible and Efficient Multi-Purpose Optimization Library in Python. Applied Sciences (Switzerland), 2021, 11, 4774.	1.3	7
85	Soft target and functional complexity reduction: A hybrid regularization method for genetic programming. Expert Systems With Applications, 2021, 177, 114929.	4.4	7
86	Multiclass Classification Through Multidimensional Clustering. Genetic and Evolutionary Computation, 2016, , 219-239.	1.0	7
87	Prediction of Forest Aboveground Biomass: An Exercise on Avoiding Overfitting. Lecture Notes in Computer Science, 2013, , 407-417.	1.0	7
88	A novel binary classification approach based on geometric semantic genetic programming. Swarm and Evolutionary Computation, 2022, 69, 101028.	4.5	7
89	GSGP-CUDA " A CUDA framework for Geometric Semantic Genetic Programming. SoftwareX, 2022, 18, 101085.	1.2	7
90	Improving Maritime Awareness with Semantic Genetic Programming and Linear Scaling: Prediction of Vessels Position Based on AIS Data. Lecture Notes in Computer Science, 2015, , 732-744.	1.0	6

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91	EDDA-V2 " An Improvement of the Evolutionary Demes Despeciation Algorithm. Lecture Notes in Computer Science, 2018, , 185-196.	1.0	6
92	Swarm intelligence for optimizing the parameters of multiple sequence aligners. Swarm and Evolutionary Computation, 2018, 42, 16-28.	4.5	6
93	Computational Intelligence for Life Sciences. Fundamenta Informaticae, 2019, 171, 57-80.	0.3	5
94	Specializing Context-Free Grammars With a (1 + 1)-EA. IEEE Transactions on Evolutionary Computation, 2020, 24, 960-973.	7.5	5
95	Pruning Techniques for Mixed Ensembles of Genetic Programming Models. Lecture Notes in Computer Science, 2018, , 52-67.	1.0	5
96	Combining Geometric Semantic GP with Gradient-Descent Optimization. Lecture Notes in Computer Science, 2022, , 19-33.	1.0	5
97	Classification of Oncologic Data with Genetic Programming. Journal of Artificial Evolution and Applications, 2009, 2009, 1-13.	1.8	4
98	Parameter tuning of evolutionary reactions systems. , 2012, , .		4
99	An efficient implementation of geometric semantic genetic programming for anticoagulation level prediction in pharmacogenetics. , 2013, , .		4
100	Neuroevolution under unimodal error landscapes. , 2018, , .		4
101	Remote Estimation of Target Height from Unmanned Aerial Vehicle (UAV) Images. Remote Sensing, 2020, 12, 3602.	1.8	4
102	Time Series Clustering of Online Gambling Activities for Addicted Users™ Detection. Applied Sciences (Switzerland), 2021, 11, 2397.	1.3	4
103	Supporting Medical Decisions for Treating Rare Diseases Through Genetic Programming. Lecture Notes in Computer Science, 2019, , 187-203.	1.0	4
104	An Analysis of Geometric Semantic Crossover: A Computational Geometry Approach. , 2016, , .		4
105	Controlling Individuals Growth in Semantic Genetic Programming through Elitist Replacement. Computational Intelligence and Neuroscience, 2016, 2016, 1-12.	1.1	3
106	A Comparison Between Representations for Evolving Images. Lecture Notes in Computer Science, 2016, , 163-185.	1.0	3
107	A Parallel Multiobjective Metaheuristic for Multiple Sequence Alignment. Journal of Computational Biology, 2018, 25, 1009-1022.	0.8	3
108	Multiobjective characteristic-based framework for very-large multiple sequence alignment. Applied Soft Computing Journal, 2018, 69, 719-736.	4.1	3

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109	Special Issue on Computational Intelligence and Nature-Inspired Algorithms for Real-World Data Analytics and Pattern Recognition. <i>Algorithms</i> , 2018, 11, 25.	1.2	3
110	Improving eQTL Analysis Using a Machine Learning Approach for Data Integration: A Logistic Model Tree Solution. <i>Journal of Computational Biology</i> , 2018, 25, 1091-1105.	0.8	3
111	A distance between populations for n-points crossover in genetic algorithms. <i>Swarm and Evolutionary Computation</i> , 2019, 44, 636-645.	4.5	3
112	Evolutionary Reaction Systems. <i>Lecture Notes in Computer Science</i> , 2012, , 13-25.	1.0	3
113	Generative adversarial networks for generating synthetic features for Wi-Fi signal quality. <i>PLoS ONE</i> , 2021, 16, e0260308.	1.1	3
114	Approaching European Supervisory Risk Assessment with SupTech: A Proposal of an Early Warning System. <i>Risks</i> , 2022, 10, 71.	1.3	3
115	The effect of selection from old populations in genetic algorithms. , 2011, , .		2
116	An evolutionary system for exploitation of fractured geothermal reservoirs. <i>Computational Geosciences</i> , 2016, 20, 385-396.	1.2	2
117	A Machine Learning Approach for the Integration of miRNA-Target Predictions. , 2016, , .		2
118	PSXO. , 2017, , .		2
119	Using biological knowledge for multiple sequence aligner decision making. <i>Information Sciences</i> , 2017, 420, 278-298.	4.0	2
120	Geometric semantic genetic programming for biomedical applications: A state of the art upgrade. , 2017, , .		2
121	Towards the development of a complete GP system on an FPGA using geometric semantic operators. , 2017, , .		2
122	Comparing incomplete sequences via longest common subsequence. <i>Theoretical Computer Science</i> , 2019, 796, 272-285.	0.5	2
123	Comparing Deep and Machine Learning Approaches in Bioinformatics: A miRNA-Target Prediction Case Study. <i>Lecture Notes in Computer Science</i> , 2019, , 31-44.	1.0	2
124	ColnGP. , 2021, , .		2
125	Multi Objective Genetic Programming for Feature Construction in Classification Problems. <i>Lecture Notes in Computer Science</i> , 2011, , 503-506.	1.0	2
126	Competitive Intelligence Empirical Construct Validation Using Expert In-Depth Interviews Study. , 2021, , .		2

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127	Genetic programming for structural similarity design at multiple spatial scales. , 2022, , .		2
128	A new genetic programming framework based on reaction systems. Genetic Programming and Evolvable Machines, 2013, 14, 457-471.	1.5	1
129	Correcting gene tree by removal and modification: Tractability and approximability. Journal of Discrete Algorithms, 2015, 33, 115-129.	0.7	1
130	Reducing Alignment Time Complexity of Ultra-Large Sets of Sequences. Journal of Computational Biology, 2017, 24, 1144-1154.	0.8	1
131	Stock index return forecasting: semantics-based genetic programming with local search optimiser. International Journal of Bio-Inspired Computation, 2017, 10, 159.	0.6	1
132	Prediction of ships' position by analysing AIS data: an artificial intelligence approach. International Journal of Web Engineering and Technology, 2017, 12, 253.	0.1	1
133	A Scalable Genetic Programming Approach to Integrate miRNA-Target Predictions: Comparing Different Parallel Implementations of M3GP. Complexity, 2018, 2018, 1-13.	0.9	1
134	A Multiple Expression Alignment Framework for Genetic Programming. Lecture Notes in Computer Science, 2018, , 166-183.	1.0	1
135	Enhancing classification performance of convolutional neural networks for prostate cancer detection on magnetic resonance images. , 2019, , .		1
136	A Parallel Particle Swarm Optimisation for Selecting Optimal Virtual Machine on Cloud Environment. Applied Sciences (Switzerland), 2020, 10, 6538.	1.3	1
137	Predicting Days on Market to Optimize Real Estate Sales Strategy. Complexity, 2020, 2020, 1-22.	0.9	1
138	Combining Bayesian Approaches and Evolutionary Techniques for the Inference of Breast Cancer Networks. , 2016, , .		1
139	Extending Local Search in Geometric Semantic Genetic Programming. Lecture Notes in Computer Science, 2019, , 775-787.	1.0	1
140	Is k Nearest Neighbours Regression Better Than GP?. Lecture Notes in Computer Science, 2020, , 244-261.	1.0	1
141	A Weight and Meta-Analysis on the Academic Achievement of High School Students. Education Sciences, 2022, 12, 287.	1.4	1
142	A hybrid Harmony search algorithm with variable neighbourhood search for the bin-packing problem. , 2014, , .		0
143	Corrections to "Semantic Search Based Genetic Programming and the Effect of Introns Deletion" [Jan 14 103-113]. IEEE Transactions on Cybernetics, 2014, 44, 565-565.	6.2	0
144	9 th Workshop on Biomedical and Bioinformatics Challenges for Computer Science " BBC2016. Procedia Computer Science, 2016, 80, 962-964.	1.2	0

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145	10 th Workshop on Biomedical and Bioinformatics Challenges for Computer Science “ BBC2017. Procedia Computer Science, 2017, 108, 1113-1114.	1.2	0
146	Editorial of the Special Issue of the 10th Workshop on Biomedical and Bioinformatics Challenges for Computer Science“BBC 2017. Computers, 2018, 7, 17.	2.1	0
147	Electricity Demand Modelling with Genetic Programming. Lecture Notes in Computer Science, 2015, , 213-225.	1.0	0
148	A Regression-like Classification System for Geometric Semantic Genetic Programming. , 2019, , .		0
149	Top k 2-Clubs in a Network: A Genetic Algorithm. Lecture Notes in Computer Science, 2019, , 656-663.	1.0	0
150	Universal Learning Machine with Genetic Programming. , 2019, , .		0
151	Explorations of the Semantic Learning Machine Neuroevolution Algorithm: Dynamic Training Data Use, Ensemble Construction Methods, and Deep Learning Perspectives. Genetic and Evolutionary Computation, 2020, , 39-62.	1.0	0
152	The Effect of Multi-Generational Selection in Geometric Semantic Genetic Programming. Applied Sciences (Switzerland), 2022, 12, 4836.	1.3	0