Seyedali Mirjalili

List of Publications by Year
in descending order

355 papers	76,265 citations	4658 85 h-index	568 263 g-index
379 all docs	379 docs citations	379 times ranked	18818 citing authors

#	Article	IF	Citations
1	Grey Wolf Optimizer. Advances in Engineering Software, 2014, 69, 46-61.	3.8	11,382
2	The Whale Optimization Algorithm. Advances in Engineering Software, 2016, 95, 51-67.	3.8	8,099
3	SCA: A Sine Cosine Algorithm for solving optimization problems. Knowledge-Based Systems, 2016, 96, 120-133.	7.1	3,492
4	Salp Swarm Algorithm: A bio-inspired optimizer for engineering design problems. Advances in Engineering Software, 2017, 114, 163-191.	3.8	3,369
5	Harris hawks optimization: Algorithm and applications. Future Generation Computer Systems, 2019, 97, 849-872.	7.5	3,345
6	Moth-flame optimization algorithm: A novel nature-inspired heuristic paradigm. Knowledge-Based Systems, 2015, 89, 228-249.	7.1	3,142
7	The Ant Lion Optimizer. Advances in Engineering Software, 2015, 83, 80-98.	3.8	2,392
8	Grasshopper Optimisation Algorithm: Theory and application. Advances in Engineering Software, 2017, 105, 30-47.	3.8	1,938
9	Dragonfly algorithm: a new meta-heuristic optimization technique for solving single-objective, discrete, and multi-objective problems. Neural Computing and Applications, 2016, 27, 1053-1073.	5.6	1,937
10	Multi-Verse Optimizer: a nature-inspired algorithm for global optimization. Neural Computing and Applications, 2016, 27, 495-513.	5.6	1,910
11	Slime mould algorithm: A new method for stochastic optimization. Future Generation Computer Systems, 2020, 111, 300-323.	7.5	1,722
12	The Arithmetic Optimization Algorithm. Computer Methods in Applied Mechanics and Engineering, 2021, 376, 113609.	6.6	1,513
13	Equilibrium optimizer: A novel optimization algorithm. Knowledge-Based Systems, 2020, 191, 105190.	7.1	1,262
14	Marine Predators Algorithm: A nature-inspired metaheuristic. Expert Systems With Applications, 2020, 152, 113377.	7.6	1,239
15	Multi-objective grey wolf optimizer: A novel algorithm for multi-criterion optimization. Expert Systems With Applications, 2016, 47, 106-119.	7.6	1,080
16	Hybrid Whale Optimization Algorithm with simulated annealing for feature selection. Neurocomputing, 2017, 260, 302-312.	5.9	884
17	S-shaped versus V-shaped transfer functions for binary Particle Swarm Optimization. Swarm and Evolutionary Computation, 2013, 9, 1-14.	8.1	814
18	Henry gas solubility optimization: A novel physics-based algorithm. Future Generation Computer Systems, 2019, 101, 646-667.	7.5	687

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19	Genetic Algorithm. Studies in Computational Intelligence, 2019, , 43-55.	0.9	644
20	African vultures optimization algorithm: A new nature-inspired metaheuristic algorithm for global optimization problems. Computers and Industrial Engineering, 2021, 158, 107408.	6.3	602
21	Grey wolf optimizer: a review of recent variants and applications. Neural Computing and Applications, 2018, 30, 413-435.	5.6	580
22	Whale optimization approaches for wrapper feature selection. Applied Soft Computing Journal, 2018, 62, 441-453.	7.2	575
23	Optimizing connection weights in neural networks using the whale optimization algorithm. Soft Computing, 2018, 22, 1-15.	3.6	564
24	Grasshopper optimization algorithm for multi-objective optimization problems. Applied Intelligence, 2018, 48, 805-820.	5.3	517
25	How effective is the Grey Wolf optimizer in training multi-layer perceptrons. Applied Intelligence, 2015, 43, 150-161.	5.3	509
26	Binary bat algorithm. Neural Computing and Applications, 2014, 25, 663-681.	5.6	507
27	An efficient binary Salp Swarm Algorithm with crossover scheme for feature selection problems. Knowledge-Based Systems, 2018, 154, 43-67.	7.1	504
28	An improved grey wolf optimizer for solving engineering problems. Expert Systems With Applications, 2021, 166, 113917.	7.6	488
29	Multi-objective ant lion optimizer: a multi-objective optimization algorithm for solving engineering problems. Applied Intelligence, 2017, 46, 79-95.	5.3	476
30	Artificial gorilla troops optimizer: A new nature‐inspired metaheuristic algorithm for global optimization problems. International Journal of Intelligent Systems, 2021, 36, 5887-5958.	5.7	471
31	Training feedforward neural networks using hybrid particle swarm optimization and gravitational search algorithm. Applied Mathematics and Computation, 2012, 218, 11125-11137.	2.2	431
32	A new hybrid PSOGSA algorithm for function optimization. , 2010, , .		397
33	Artificial hummingbird algorithm: A new bio-inspired optimizer with its engineering applications. Computer Methods in Applied Mechanics and Engineering, 2022, 388, 114194.	6.6	381
34	Binary Optimization Using Hybrid Grey Wolf Optimization for Feature Selection. IEEE Access, 2019, 7, 39496-39508.	4.2	337
35	Evolutionary Population Dynamics and Grasshopper Optimization approaches for feature selection problems. Knowledge-Based Systems, 2018, 145, 25-45.	7.1	331
36	Binary grasshopper optimisation algorithm approaches for feature selection problems. Expert Systems With Applications, 2019, 117, 267-286.	7.6	330

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37	Binary dragonfly optimization for feature selection using time-varying transfer functions. Knowledge-Based Systems, 2018, 161, 185-204.	7.1	318
38	An efficient salp swarm-inspired algorithm for parameters identification of photovoltaic cell models. Energy Conversion and Management, 2019, 179, 362-372.	9.2	303
39	Biogeography-based optimisation with chaos. Neural Computing and Applications, 2014, 25, 1077-1097.	5.6	273
40	Let a biogeography-based optimizer train your Multi-Layer Perceptron. Information Sciences, 2014, 269, 188-209.	6.9	263
41	Particle Swarm Optimization: A Comprehensive Survey. IEEE Access, 2022, 10, 10031-10061.	4.2	252
42	Improved Salp Swarm Algorithm based on opposition based learning and novel local search algorithm for feature selection. Expert Systems With Applications, 2020, 145, 113122.	7.6	250
43	Chaotic gravitational constants for the gravitational search algorithm. Applied Soft Computing Journal, 2017, 53, 407-419.	7.2	235
44	Optimization of problems with multiple objectives using the multi-verse optimization algorithm. Knowledge-Based Systems, 2017, 134, 50-71.	7.1	230
45	Diagnosing COVID-19 pneumonia from x-ray and CT images using deep learning and transfer learning algorithms. , 2021, , .		226
46	A new fusion of grey wolf optimizer algorithm with a two-phase mutation for feature selection. Expert Systems With Applications, 2020, 139, 112824.	7.6	215
47	Prairie Dog Optimization Algorithm. Neural Computing and Applications, 2022, 34, 20017-20065.	5.6	212
48	Artificial rabbits optimization: A new bio-inspired meta-heuristic algorithm for solving engineering optimization problems. Engineering Applications of Artificial Intelligence, 2022, 114, 105082.	8.1	206
49	Evolutionary Algorithms and Neural Networks. Studies in Computational Intelligence, 2019, , .	0.9	197
50	An efficient hybrid multilayer perceptron neural network with grasshopper optimization. Soft Computing, 2019, 23, 7941-7958.	3.6	195
51	Whale Optimization Algorithm With Applications to Resource Allocation in Wireless Networks. IEEE Transactions on Vehicular Technology, 2020, 69, 4285-4297.	6.3	193
52	Improving the Prediction of Heart Failure Patientsâ€™ Survival Using SMOTE and Effective Data Mining Techniques. IEEE Access, 2021, 9, 39707-39716.	4.2	193
53	Simultaneous Feature Selection and Support Vector Machine Optimization Using the Grasshopper Optimization Algorithm. Cognitive Computation, 2018, 10, 478-495.	5.2	189
54	Ions motion algorithm for solving optimization problems. Applied Soft Computing Journal, 2015, 32, 72-79.	7.2	181

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55	An improved Artificial Neural Network using Arithmetic Optimization Algorithm for damage assessment in FGM composite plates. Composite Structures, 2021, 273, 114287.	5.8	178
56	Training feedforward neural networks using multi-verse optimizer for binary classification problems. Applied Intelligence, 2016, 45, 322-332.	5.3	176
57	Asynchronous accelerating multi-leader salp chains for feature selection. Applied Soft Computing Journal, 2018, 71, 964-979.	7.2	175
58	An evolutionary gravitational search-based feature selection. Information Sciences, 2019, 497, 219-239.	6.9	175
59	Adaptive gbest-guided gravitational search algorithm. Neural Computing and Applications, 2014, 25, 1569-1584.	5.6	174
60	Selective Opposition based Grey Wolf Optimization. Expert Systems With Applications, 2020, 151, 113389.	7.6	174
61	A multi-verse optimizer approach for feature selection and optimizing SVM parameters based on a robust system architecture. Neural Computing and Applications, 2018, 30, 2355-2369.	5.6	166
62	Binary optimization using hybrid particle swarm optimization and gravitational search algorithm. Neural Computing and Applications, 2014, 25, 1423-1435.	5.6	163
63	Three-dimensional path planning for UCAV using an improved bat algorithm. Aerospace Science and Technology, 2016, 49, 231-238.	4.8	161
64	Novel Feature Selection and Voting Classifier Algorithms for COVID-19 Classification in CT Images. IEEE Access, 2020, 8, 179317-179335.	4.2	138
65	Flow Direction Algorithm (FDA): A Novel Optimization Approach for Solving Optimization Problems. Computers and Industrial Engineering, 2021, 156, 107224.	6.3	135
66	MTDE: An effective multi-trial vector-based differential evolution algorithm and its applications for engineering design problems. Applied Soft Computing Journal, 2020, 97, 106761.	7.2	133
67	Dynamic Salp swarm algorithm for feature selection. Expert Systems With Applications, 2021, 164, 113873.	7.6	133
68	Grasshopper Optimization Algorithm: Theory, Variants, and Applications. IEEE Access, 2021, 9, 50001-50024.	4.2	132
69	A deep learning-based evolutionary model for short-term wind speed forecasting: A case study of the Lillgrund offshore wind farm. Energy Conversion and Management, 2021, 236, 114002.	9.2	130
70	Binary Dragonfly Algorithm for Feature Selection. , 2017, , .		126
71	Truss optimization with natural frequency bounds using improved symbiotic organisms search. Knowledge-Based Systems, 2018, 143, 162-178.	7.1	123
72	Autonomous Particles Groups for Particle Swarm Optimization. Arabian Journal for Science and Engineering, 2014, 39, 4683-4697.	1.1	122

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73	Multi-objective stochastic closed-loop supply chain network design with social considerations. Applied Soft Computing Journal, 2018, 71, 505-525.	7.2	121
74	Generalized normal distribution optimization and its applications in parameter extraction of photovoltaic models. Energy Conversion and Management, 2020, 224, 113301.	9.2	117
75	Enhanced whale optimization algorithm for medical feature selection: A COVID-19 case study. Computers in Biology and Medicine, 2022, 148, 105858.	7.0	117
76	A novel enhanced whale optimization algorithm for global optimization. Computers and Industrial Engineering, 2021, 153, 107086.	6.3	116
77	A Comparative Study of Recent Non-traditional Methods for Mechanical Design Optimization. Archives of Computational Methods in Engineering, 2020, 27, 1031-1048.	10.2	115
78	A hyper-heuristic for improving the initial population of whale optimization algorithm. Knowledge-Based Systems, 2019, 172, 42-63.	7.1	113
79	OptCoNet: an optimized convolutional neural network for an automatic diagnosis of COVID-19. Applied Intelligence, 2021, 51, 1351-1366.	5.3	113
80	Hybrid binary ant lion optimizer with rough set and approximate entropy reducts for feature selection. Soft Computing, 2019, 23, 6249-6265.	3.6	112
81	A Hyper Learning Binary Dragonfly Algorithm for Feature Selection: A COVID-19 Case Study. Knowledge-Based Systems, 2021, 212, 106553.	7.1	112
82	Ant Lion Optimizer: A Comprehensive Survey of Its Variants and Applications. Archives of Computational Methods in Engineering, 2021, 28, 1397-1416.	10.2	110
83	A New Arithmetic Optimization Algorithm for Solving Real-World Multiobjective CEC-2021 Constrained Optimization Problems: Diversity Analysis and Validations. IEEE Access, 2021, 9, 84263-84295.	4.2	105
84	Efficient Hybrid Nature-Inspired Binary Optimizers for Feature Selection. Cognitive Computation, 2020, 12, 150-175.	5.2	99
85	A modified Sine Cosine Algorithm with novel transition parameter and mutation operator for global optimization. Expert Systems With Applications, 2020, 154, 113395.	7.6	97
86	An enhanced associative learning-based exploratory whale optimizer for global optimization. Neural Computing and Applications, 2020, 32, 5185-5211.	5.6	96
87	Approaches to Multi-Objective Feature Selection: A Systematic Literature Review. IEEE Access, 2020, 8, 125076-125096.	4.2	95
88	A novel version of Cuckoo search algorithm for solving optimization problems. Expert Systems With Applications, 2021, 186, 115669.	7.6	95
89	An Improved Harris Hawks Optimization Algorithm With Simulated Annealing for Feature Selection in the Medical Field. IEEE Access, 2020, 8, 186638-186652.	4.2	93
90	A comprehensive survey of recent trends in deep learning for digital images augmentation. Artificial Intelligence Review, 2022, 55, 2351-2377.	15.7	91

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91	Comparison of metaheuristic optimization algorithms for solving constrained mechanical design optimization problems. Expert Systems With Applications, 2021, 183, 115351.	7.6	91
92	Genetic Algorithm: Theory, Literature Review, and Application in Image Reconstruction. Studies in Computational Intelligence, 2020, , 69-85.	0.9	88
93	Advanced Meta-Heuristics, Convolutional Neural Networks, and Feature Selectors for Efficient COVID-19 X-Ray Chest Image Classification. IEEE Access, 2021, 9, 36019-36037.	4.2	88
94	Comparison of recent optimization algorithms for design optimization of a cam-follower mechanism. Knowledge-Based Systems, 2020, 191, 105237.	7.1	87
95	Solar photovoltaic parameter estimation using an improved equilibrium optimizer. Solar Energy, 2020, 209, 694-708.	6.1	87
96	Improved monarch butterfly optimization for unconstrained global search and neural network training. Applied Intelligence, 2018, 48, 445-464.	5.3	86
97	Binary Multi-Objective Grey Wolf Optimizer for Feature Selection in Classification. IEEE Access, 2020, 8, 106247-106263.	4.2	86
98	B-MFO: A Binary Moth-Flame Optimization for Feature Selection from Medical Datasets. Computers, 2021, 10, 136.	3.3	85
99	Training radial basis function networks using biogeography-based optimizer. Neural Computing and Applications, 2018, 29, 529-553.	5.6	83
100	A comprehensive survey of sine cosine algorithm: variants and applications. Artificial Intelligence Review, 2021, 54, 5469-5540.	15.7	83
101	Chaotic Krill Herd Optimization Algorithm. Procedia Technology, 2014, 12, 180-185.	1.1	82
102	A Review of Grey Wolf Optimizer-Based Feature Selection Methods for Classification. Algorithms for Intelligent Systems, 2020, , 273-286.	0.6	78
103	A novel objective function with artificial ecosystem-based optimization for relieving the mismatching power loss of large-scale photovoltaic array. Energy Conversion and Management, 2020, 225, 113385.	9.2	77
104	Time-varying hierarchical chains of salps with random weight networks for feature selection. Expert Systems With Applications, 2020, 140, 112898.	7.6	75
105	Dynamic Butterfly Optimization Algorithm for Feature Selection. IEEE Access, 2020, 8, 194303-194314.	4.2	75
106	An efficient equilibrium optimizer with mutation strategy for numerical optimization. Applied Soft Computing Journal, 2020, 96, 106542.	7.2	73
107	Enhanced multi-verse optimizer for task scheduling in cloud computing environments. Expert Systems With Applications, 2021, 168, 114230.	7.6	73
108	Hybrid optimizers to solve a tri-level programming model for a tire closed-loop supply chain network design problem. Applied Soft Computing Journal, 2018, 70, 701-722.	7.2	72

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109	Salp Swarm Algorithm: Theory, Literature Review, and Application in Extreme Learning Machines. Studies in Computational Intelligence, 2020, , 185-199.	0.9	71
110	Ant Lion Optimizer: Theory, Literature Review, and Application in Multi-layer Perceptron Neural Networks. Studies in Computational Intelligence, 2020, , 23-46.	0.9	71
111	Modified symbiotic organisms search for structural optimization. Engineering With Computers, 2019, 35, 1269-1296.	6.1	68
112	A dynamic locality multi-objective salp swarm algorithm for feature selection. Computers and Industrial Engineering, 2020, 147, 106628.	6.3	68
113	A bi-stage feature selection approach for COVID-19 prediction using chest CT images. Applied Intelligence, 2021, 51, 8985-9000.	5.3	67
114	Wind Speed Ensemble Forecasting Based on Deep Learning Using Adaptive Dynamic Optimization Algorithm. IEEE Access, 2021, 9, 125787-125804.	4.2	67
115	Novel performance metrics for robust multi-objective optimization algorithms. Swarm and Evolutionary Computation, 2015, 21, 1-23.	8.1	66
116	Wind turbine power output prediction using a new hybrid neuro-evolutionary method. Energy, 2021, 229, 120617.	8.8	66
117	Special issue on â€œreal-world optimization problems and meta-heuristicsâ€. Neural Computing and Applications, 2020, 32, 11965-11966.	5.6	66
118	Automatic selection of hidden neurons and weights in neural networks using grey wolf optimizer based on a hybrid encoding scheme. International Journal of Machine Learning and Cybernetics, 2019, 10, 2901-2920.	3.6	65
119	Fractional-order calculus-based flower pollination algorithm with local search for global optimization and image segmentation. Knowledge-Based Systems, 2020, 197, 105889.	7.1	65
120	Feature selection methods on gene expression microarray data for cancer classification: A systematic review. Computers in Biology and Medicine, 2022, 140, 105051.	7.0	65
121	GGWO: Gaze cues learning-based grey wolf optimizer and its applications for solving engineering problems. Journal of Computational Science, 2022, 61, 101636.	2.9	65
122	Clustering analysis using a novel locality-informed grey wolf-inspired clustering approach. Knowledge and Information Systems, 2020, 62, 507-539.	3.2	62
123	A set of efficient heuristics for a home healthcare problem. Neural Computing and Applications, 2020, 32, 6185-6205.	5.6	61
124	Emotion Recognition by Textual Tweets Classification Using Voting Classifier (LR-SGD). IEEE Access, 2021, 9, 6286-6295.	4.2	61
125	A Comparative Study of Recent Multi-objective Metaheuristics for Solving Constrained Truss Optimisation Problems. Archives of Computational Methods in Engineering, 2021, 28, 4031-4047.	10.2	61
126	Dynamic Arithmetic Optimization Algorithm for Truss Optimization Under Natural Frequency Constraints. IEEE Access, 2022, 10, 16188-16208.	4.2	61

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127	Multi-objective scheduling of IoT-enabled smart homes for energy management based on Arithmetic Optimization Algorithm: A Node-RED and NodeMCU module-based technique. Knowledge-Based Systems, 2022, 247, 108762.	7.1	61
128	How important is a transfer function in discrete heuristic algorithms. Neural Computing and Applications, 2015, 26, 625-640.	5.6	60
129	A novel Whale Optimization Algorithm integrated with Nelder–Mead simplex for multi-objective optimization problems. Knowledge-Based Systems, 2021, 212, 106619.	7.1	59
130	EvoloPy: An Open-source Nature-inspired Optimization Framework in Python. , 2016, , .		59
131	An Improved Moth-Flame Optimization Algorithm with Adaptation Mechanism to Solve Numerical and Mechanical Engineering Problems. Entropy, 2021, 23, 1637.	2.2	59
132	Evolutionary static and dynamic clustering algorithms based on multi-verse optimizer. Engineering Applications of Artificial Intelligence, 2018, 72, 54-66.	8.1	58
133	Binary multi-verse optimization algorithm for global optimization and discrete problems. International Journal of Machine Learning and Cybernetics, 2019, 10, 3445-3465.	3.6	58
134	EWOA-OPF: Effective Whale Optimization Algorithm to Solve Optimal Power Flow Problem. Electronics (Switzerland), 2021, 10, 2975.	3.1	58
135	Bayesian-based optimized deep learning model to detect COVID-19 patients using chest X-ray image data. Computers in Biology and Medicine, 2022, 142, 105213.	7.0	58
136	A hybrid PSO and Grey Wolf Optimization algorithm for static and dynamic crack identification. Theoretical and Applied Fracture Mechanics, 2022, 118, 103213.	4.7	58
137	Novel Meta-Heuristic Algorithm for Feature Selection, Unconstrained Functions and Engineering Problems. IEEE Access, 2022, 10, 40536-40555.	4.2	58
138	The cheetah optimizer: a nature-inspired metaheuristic algorithm for large-scale optimization problems. Scientific Reports, 2022, 12, .	3.3	58
139	Optimizing the Learning Process of Feedforward Neural Networks Using Lightning Search Algorithm. International Journal on Artificial Intelligence Tools, 2016, 25, 1650033.	1.0	57
140	Fractional-order cuckoo search algorithm for parameter identification of the fractional-order chaotic, chaotic with noise and hyper-chaotic financial systems. Engineering Applications of Artificial Intelligence, 2020, 92, 103662.	8.1	57
141	Integrating the whale algorithm with Tabu search for quadratic assignment problem: A new approach for locating hospital departments. Applied Soft Computing Journal, 2018, 73, 530-546.	7.2	56
142	Discrepancy detection between actual user reviews and numeric ratings of Google App store using deep learning. Expert Systems With Applications, 2021, 181, 115111.	7.6	56
143	YUKI Algorithm and POD-RBF for Elastostatic and dynamic crack identification. Journal of Computational Science, 2021, 55, 101451.	2.9	54
144	Nonlinear-based Chaotic Harris Hawks Optimizer: Algorithm and Internet of Vehicles application. Applied Soft Computing Journal, 2021, 109, 107574.	7.2	54

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145	BMOA: Binary Magnetic Optimization Algorithm. International Journal of Machine Learning and Computing, 2012, , 204-208.	0.6	54
146	Opposition-based Laplacian Equilibrium Optimizer with application in Image Segmentation using Multilevel Thresholding. Expert Systems With Applications, 2021, 174, 114766.	7.6	53
147	Migration-Based Moth-Flame Optimization Algorithm. Processes, 2021, 9, 2276.	2.8	53
148	An effective multi-objective artificial hummingbird algorithm with dynamic elimination-based crowding distance for solving engineering design problems. Computer Methods in Applied Mechanics and Engineering, 2022, 398, 115223.	6.6	53
149	Enhanced Jaya algorithm: A simple but efficient optimization method for constrained engineering design problems. Knowledge-Based Systems, 2021, 233, 107555.	7.1	52
150	S-Shaped vs. V-Shaped Transfer Functions for Ant Lion Optimization Algorithm in Feature Selection Problem. , 2017, , .		51
151	Whale Optimization Algorithm: Theory, Literature Review, and Application in Designing Photonic Crystal Filters. Studies in Computational Intelligence, 2020, , 219-238.	0.9	51
152	An efficient approach for damage identification based on improved machine learning using PSO-SVM. Engineering With Computers, 2022, 38, 3069-3084.	6.1	51
153	Effective policies to overcome barriers in the development of smart cities. Energy Research and Social Science, 2021, 79, 102175.	6.4	51
154	Meta-heuristic optimization algorithms for solving real-world mechanical engineering design problems: a comprehensive survey, applications, comparative analysis, and results. Neural Computing and Applications, 2022, 34, 4081-4110.	5.6	51
155	A parallel numerical method for solving optimal control problems based on whale optimization algorithm. Knowledge-Based Systems, 2018, 151, 114-123.	7.1	49
156	Binary Harris Hawks Optimizer for High-Dimensional, Low Sample Size Feature Selection. Algorithms for Intelligent Systems, 2020, , 251-272.	0.6	49
157	Exergoeconomic, carbon, and water footprint analyses and optimization of a new solar-driven multigeneration system based on supercritical CO2 cycle and solid oxide steam electrolyzer using various phase change materials. Chemical Engineering Research and Design, 2022, 159, 393-421.	5.6	49
158	Multi-verse Optimizer: Theory, Literature Review, and Application inÂData Clustering. Studies in Computational Intelligence, 2020, , 123-141.	0.9	48
159	Embedded chaotic whale survival algorithm for filterâ€"wrapper feature selection. Soft Computing, 2020, 24, 12821-12843.	3.6	48
160	An efficient binary slime mould algorithm integrated with a novel attacking-feeding strategy for feature selection. Computers and Industrial Engineering, 2021, 153, 107078.	6.3	47
161	Intelligent Detection of the PV Faults Based on Artificial Neural Network and Type 2 Fuzzy Systems. Energies, 2021, 14, 6584.	3.1	46
162	Advanced Ensemble Model for Solar Radiation Forecasting Using Sine Cosine Algorithm and Newtonâ€™s Laws. IEEE Access, 2021, 9, 115750-115765.	4.2	45

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163	Sine Cosine Algorithm: Theory, Literature Review, and Application in Designing Bend Photonic Crystal Waveguides. Studies in Computational Intelligence, 2020, , 201-217.	0.9	44
164	AIEOU: Automata-based improved equilibrium optimizer with U-shaped transfer function for feature selection. Knowledge-Based Systems, 2021, 228, 107283.	7.1	44
165	Optimization of an appointment scheduling problem for healthcare systems based on the quality of fairness service using whale optimization algorithm and NSGA-II. Scientific Reports, 2021, 11, 19816.	3.3	44
166	Optical buffer performance enhancement using Particle Swarm Optimization in Ring-Shape-Hole Photonic Crystal Waveguide. Optik, 2013, 124, 5989-5993.	2.9	43
167	MOMPA: Multi-objective marine predator algorithm for solving multi-objective optimization problems. Evolutionary Intelligence, 2023, 16, 169-195.	3.6	43
168	Novel binary differential evolution algorithm based on Taper-shaped transfer functions for binary optimization problems. Swarm and Evolutionary Computation, 2022, 69, 101022.	8.1	43
169	Dragonfly Algorithm: Theory, Literature Review, and Application in Feature Selection. Studies in Computational Intelligence, 2020, , 47-67.	0.9	42
170	A hybrid Harris hawks-moth-flame optimization algorithm including fractional-order chaos maps and evolutionary population dynamics. Advances in Engineering Software, 2021, 154, 102973.	3.8	42
171	A hybrid Grasshopper Optimization Algorithm and Harris Hawks Optimizer for Combined Heat and Power Economic Dispatch problem. Engineering Applications of Artificial Intelligence, 2022, 111, 104753.	8.1	42
172	UAV Path Planning Using Optimization Approaches: A Survey. Archives of Computational Methods in Engineering, 2022, 29, 4233-4284.	10.2	42
173	Optimal design of IIR wideband digital differentiators and integrators using salp swarm algorithm. Knowledge-Based Systems, 2019, 182, 104834.	7.1	40
174	A harmonic estimator design with evolutionary operators equipped grey wolf optimizer. Expert Systems With Applications, 2020, 145, 113125.	7.6	40
175	Multiple scenarios multi-objective salp swarm optimization for sizing of standalone photovoltaic system. Renewable Energy, 2020, 153, 1330-1345.	8.9	40
176	Automatic Screening of COVID-19 Using an Optimized Generative Adversarial Network. Cognitive Computation, 2021, , 1-16.	5.2	40
177	Inverse problem for dynamic structural health monitoring based on slime mould algorithm. Engineering With Computers, 2022, 38, 2205-2228.	6.1	40
178	Adaptive grey wolf optimizer. Neural Computing and Applications, 2022, 34, 7711-7731.	5.6	40
179	Binary Aquila Optimizer for Selecting Effective Features from Medical Data: A COVID-19 Case Study. Mathematics, 2022, 10, 1929.	2.2	40
180	Adaptive $\eta - \beta$ - hill climbing for optimization. Soft Computing, 2019, 23, 13489-13512.	3.6	39

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181	Particle Swarm Optimization Variants for Solving Geotechnical Problems: Review and Comparative Analysis. Archives of Computational Methods in Engineering, 2021, 28, 1871-1927.	10.2	39
182	Investigating Smart City Development Based on Green Buildings, Electrical Vehicles and Feasible Indicators. Sustainability, 2021, 13, 7808.	3.2	38
183	Evaluation of human resource information systems using grey ordinal pairwise comparison MCDM methods. Expert Systems With Applications, 2021, 182, 115151.	7.6	38
184	Hybridizing of Whale and Moth-Flame Optimization Algorithms to Solve Diverse Scales of Optimal Power Flow Problem. Electronics (Switzerland), 2022, 11, 831.	3.1	38
185	Evolving Radial Basis Function Networks Using Moth–Flame Optimizer. , 2017, , 537-550.		37
186	Improved Whale Optimization Algorithm applied to design PID plus second-order derivative controller for automatic voltage regulator system. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers,Series A/Chung-kuo Kung Ch'eng Hsuch K'an, 2020, 43, 541-552.	1.1	37
187	Formal context reduction in deriving concept hierarchies from corpora using adaptive evolutionary clustering algorithm star. Complex & Intelligent Systems, 2021, 7, 2383-2398.	6.5	37
188	Secure video communication using firefly optimization and visual cryptography. Artificial Intelligence Review, 2022, 55, 2997-3017.	15.7	37
189	A binary multi-verse optimizer for 0-1 multidimensional knapsack problems with application in interactive multimedia systems. Computers and Industrial Engineering, 2019, 132, 187-206.	6.3	36
190	Introducing clustering based population in Binary Gravitational Search Algorithm for Feature Selection. Applied Soft Computing Journal, 2020, 93, 106341.	7.2	36
191	Neuroevolution-based autonomous robot navigation: A comparative study. Cognitive Systems Research, 2020, 62, 35-43.	2.7	36
192	General Learning Equilibrium Optimizer: A New Feature Selection Method for Biological Data Classification. Applied Artificial Intelligence, 2021, 35, 247-263.	3.2	36
193	EvoloPy-FS: An Open-Source Nature-Inspired Optimization Framework in Python for Feature Selection. Algorithms for Intelligent Systems, 2020, , 131-173.	0.6	36
194	Grey Wolf Optimizer: Theory, Literature Review, and Application in Computational Fluid Dynamics Problems. Studies in Computational Intelligence, 2020, , 87-105.	0.9	35
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