

# Laith Mohammad Abualigah

## List of Publications by Year in descending order

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196  
papers

13,463  
citations

36303

51  
h-index

28297

105  
g-index

199  
all docs

199  
docs citations

199  
times ranked

3743  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Arithmetic Optimization Algorithm. Computer Methods in Applied Mechanics and Engineering, 2021, 376, 113609.	6.6	1,513
2	Aquila Optimizer: A novel meta-heuristic optimization algorithm. Computers and Industrial Engineering, 2021, 157, 107250.	6.3	1,209
3	Reptile Search Algorithm (RSA): A nature-inspired meta-heuristic optimizer. Expert Systems With Applications, 2022, 191, 116158.	7.6	693
4	Dwarf Mongoose Optimization Algorithm. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114570.	6.6	409
5	A new feature selection method to improve the document clustering using particle swarm optimization algorithm. Journal of Computational Science, 2018, 25, 456-466.	2.9	391
6	Unsupervised text feature selection technique based on hybrid particle swarm optimization algorithm with genetic operators for the text clustering. Journal of Supercomputing, 2017, 73, 4773-4795.	3.6	362
7	Hybrid clustering analysis using improved krill herd algorithm. Applied Intelligence, 2018, 48, 4047-4071.	5.3	302
8	Ebola Optimization Search Algorithm: A New Nature-Inspired Metaheuristic Optimization Algorithm. IEEE Access, 2022, 10, 16150-16177.	4.2	267
9	A comprehensive survey of clustering algorithms: State-of-the-art machine learning applications, taxonomy, challenges, and future research prospects. Engineering Applications of Artificial Intelligence, 2022, 110, 104743.	8.1	239
10	A combination of objective functions and hybrid Krill herd algorithm for text document clustering analysis. Engineering Applications of Artificial Intelligence, 2018, 73, 111-125.	8.1	228
11	Advances in Sine Cosine Algorithm: A comprehensive survey. Artificial Intelligence Review, 2021, 54, 2567-2608.	15.7	224
12	Salp swarm algorithm: a comprehensive survey. Neural Computing and Applications, 2020, 32, 11195-11215.	5.6	215
13	Prairie Dog Optimization Algorithm. Neural Computing and Applications, 2022, 34, 20017-20065.	5.6	212
14	A novel hybrid antlion optimization algorithm for multi-objective task scheduling problems in cloud computing environments. Cluster Computing, 2021, 24, 205-223.	5.0	208
15	A novel hybridization strategy for krill herd algorithm applied to clustering techniques. Applied Soft Computing Journal, 2017, 60, 423-435.	7.2	193
16	Applications, Deployments, and Integration of Internet of Drones (IoD): A Review. IEEE Sensors Journal, 2021, 21, 25532-25546.	4.7	175
17	Text feature selection with a robust weight scheme and dynamic dimension reduction to text document clustering. Expert Systems With Applications, 2017, 84, 24-36.	7.6	173
18	Moth flame optimization algorithm: variants and applications. Neural Computing and Applications, 2020, 32, 9859-9884.	5.6	159

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19	A comprehensive review: Krill Herd algorithm (KH) and its applications. Applied Soft Computing Journal, 2016, 49, 437-446.	7.2	158
20	A comprehensive survey of theÂGrasshopper optimization algorithm: results, variants, and applications. Neural Computing and Applications, 2020, 32, 15533-15556.	5.6	156
21	Machine learning in medical applications: A review of state-of-the-art methods. Computers in Biology and Medicine, 2022, 145, 105458.	7.0	155
22	Multi-verse optimizer algorithm: a comprehensive survey of its results, variants, and applications. Neural Computing and Applications, 2020, 32, 12381-12401.	5.6	144
23	Improved binary gray wolf optimizer and SVM for intrusion detection system in wireless sensor networks. Journal of Ambient Intelligence and Humanized Computing, 2021, 12, 1559-1576.	4.9	143
24	Group search optimizer: a nature-inspired meta-heuristic optimization algorithm with its results, variants, and applications. Neural Computing and Applications, 2021, 33, 2949-2972.	5.6	124
25	Ant Lion Optimizer: A Comprehensive Survey of Its Variants and Applications. Archives of Computational Methods in Engineering, 2021, 28, 1397-1416.	10.2	110
26	A Novel Evolutionary Arithmetic Optimization Algorithm for Multilevel Thresholding Segmentation of COVID-19 CT Images. Processes, 2021, 9, 1155.	2.8	110
27	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
28	A Comprehensive Survey of the Harmony Search Algorithm in Clustering Applications. Applied Sciences (Switzerland), 2020, 10, 3827.	2.5	98
29	Development and application of slime mould algorithm for optimal economic emission dispatch. Expert Systems With Applications, 2021, 182, 115205.	7.6	96
30	Marine Predators Algorithm for Forecasting Confirmed Cases of COVID-19 in Italy, USA, Iran and Korea. International Journal of Environmental Research and Public Health, 2020, 17, 3520.	2.6	96
31	Harris hawks optimization: a comprehensive review of recent variants and applications. Neural Computing and Applications, 2021, 33, 8939-8980.	5.6	93
32	An improved opposition-based marine predators algorithm for global optimization and multilevel thresholding image segmentation. Knowledge-Based Systems, 2021, 229, 107348.	7.1	92
33	An Improved Hybrid Aquila Optimizer and Harris Hawks Algorithm for Solving Industrial Engineering Optimization Problems. Processes, 2021, 9, 1551.	2.8	90
34	A Consolidated Review of Path Planning and Optimization Techniques: Technical Perspectives and Future Directions. Electronics (Switzerland), 2021, 10, 2250.	3.1	81
35	Advanced optimization technique for scheduling IoT tasks in cloud-fog computing environments. Future Generation Computer Systems, 2021, 124, 142-154.	7.5	81
36	Amended hybrid multi-verse optimizer with genetic algorithm for solving task scheduling problem in cloud computing. Journal of Supercomputing, 2022, 78, 740-765.	3.6	80

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37	Hybrid Aquila optimizer with arithmetic optimization algorithm for global optimization tasks. <i>Soft Computing</i> , 2022, 26, 4863-4881.	3.6	77
38	COVID-19 X-ray images classification based on enhanced fractional-order cuckoo search optimizer using heavy-tailed distributions. <i>Applied Soft Computing Journal</i> , 2021, 101, 107052.	7.2	74
39	Boosted ANFIS model using augmented marine predator algorithm with mutation operators for wind power forecasting. <i>Applied Energy</i> , 2022, 314, 118851.	10.1	74
40	Gene selection for cancer classification by combining minimum redundancy maximum relevancy and bat-inspired algorithm. <i>International Journal of Data Mining and Bioinformatics</i> , 2017, 19, 32.	0.1	70
41	Advances in Meta-Heuristic Optimization Algorithms in Big Data Text Clustering. <i>Electronics (Switzerland)</i> , 2021, 10, 101.	3.1	65
42	Solving capacitated vehicle routing problem using cooperative firefly algorithm. <i>Applied Soft Computing Journal</i> , 2021, 108, 107403.	7.2	65
43	Reliable applied objective for identifying simple and detailed photovoltaic models using modern metaheuristics: Comparative study. <i>Energy Conversion and Management</i> , 2020, 223, 113279.	9.2	63
44	Wind, Solar, and Photovoltaic Renewable Energy Systems with and without Energy Storage Optimization: A Survey of Advanced Machine Learning and Deep Learning Techniques. <i>Energies</i> , 2022, 15, 578.	3.1	61
45	Advanced metaheuristic optimization techniques in applications of deep neural networks: a review. <i>Neural Computing and Applications</i> , 2021, 33, 14079-14099.	5.6	60
46	Advanced Metaheuristic Techniques for Mechanical Design Problems: Review. <i>Archives of Computational Methods in Engineering</i> , 2022, 29, 695-716.	10.2	60
47	An Improved Moth-Flame Optimization Algorithm with Adaptation Mechanism to Solve Numerical and Mechanical Engineering Problems. <i>Entropy</i> , 2021, 23, 1637.	2.2	59
48	Nature-Inspired Optimization Algorithms for Text Document Clustering – A Comprehensive Analysis. <i>Algorithms</i> , 2020, 13, 345.	2.1	58
49	EWOA-OPF: Effective Whale Optimization Algorithm to Solve Optimal Power Flow Problem. <i>Electronics (Switzerland)</i> , 2021, 10, 2975.	3.1	58
50	A novel feature selection method for data mining tasks using hybrid Sine Cosine Algorithm and Genetic Algorithm. <i>Cluster Computing</i> , 2021, 24, 2161-2176.	5.0	56
51	Boosting Arithmetic Optimization Algorithm with Genetic Algorithm Operators for Feature Selection: Case Study on Cox Proportional Hazards Model. <i>Mathematics</i> , 2021, 9, 2321.	2.2	55
52	Deep Ensemble of Slime Mold Algorithm and Arithmetic Optimization Algorithm for Global Optimization. <i>Processes</i> , 2021, 9, 1774.	2.8	55
53	A novel intelligent deep learning predictive model for meteorological drought forecasting. <i>Journal of Ambient Intelligence and Humanized Computing</i> , 2023, 14, 10441-10455.	4.9	54
54	Migration-Based Moth-Flame Optimization Algorithm. <i>Processes</i> , 2021, 9, 2276.	2.8	53

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55	Meta-heuristic optimization algorithms for solving real-world mechanical engineering design problems: a comprehensive survey, applications, comparative analysis, and results. <i>Neural Computing and Applications</i> , 2022, 34, 4081-4110.	5.6	51
56	An Improved Hybrid Swarm Intelligence for Scheduling IoT Application Tasks in the Cloud. <i>IEEE Transactions on Industrial Informatics</i> , 2022, 18, 6264-6272.	11.3	51
57	Big data and E-government: A review. , 2017, , .		49
58	Chaotic binary Group Search Optimizer for feature selection. <i>Expert Systems With Applications</i> , 2022, 192, 116368.	7.6	49
59	An enhanced Grey Wolf Optimizer based Particle Swarm Optimizer for intrusion detection system in wireless sensor networks. <i>Wireless Networks</i> , 2022, 28, 721-744.	3.0	48
60	Enhanced a hybrid moth-flame optimization algorithm using new selection schemes. <i>Engineering With Computers</i> , 2021, 37, 2931-2956.	6.1	47
61	Improved Slime Mould Algorithm based on Firefly Algorithm for feature selection: A case study on QSAR model. <i>Engineering With Computers</i> , 2022, 38, 2407-2421.	6.1	47
62	Intelligent workflow scheduling for Big Data applications in IoT cloud computing environments. <i>Cluster Computing</i> , 2021, 24, 2957-2976.	5.0	47
63	Lightning search algorithm: a comprehensive survey. <i>Applied Intelligence</i> , 2021, 51, 2353-2376.	5.3	46
64	Marine predators algorithm for optimal allocation of active and reactive power resources in distribution networks. <i>Neural Computing and Applications</i> , 2021, 33, 14327-14355.	5.6	46
65	Enhanced Remora Optimization Algorithm for Solving Constrained Engineering Optimization Problems. <i>Mathematics</i> , 2022, 10, 1696.	2.2	45
66	Multi-Robot Space Exploration: An Augmented Arithmetic Approach. <i>IEEE Access</i> , 2021, 9, 107738-107750.	4.2	44
67	Emerging Trends in Blockchain Technology and Applications: A Review and Outlook. <i>Journal of King Saud University - Computer and Information Sciences</i> , 2022, 34, 6719-6742.	3.9	42
68	Social Media Toxicity Classification Using Deep Learning: Real-World Application UK Brexit. <i>Electronics (Switzerland)</i> , 2021, 10, 1332.	3.1	41
69	An improved arithmetic optimization algorithm with forced switching mechanism for global optimization problems. <i>Mathematical Biosciences and Engineering</i> , 2022, 19, 473-512.	1.9	41
70	A novel bat algorithm with dynamic membrane structure for optimization problems. <i>Applied Intelligence</i> , 2021, 51, 1992-2017.	5.3	40
71	An efficient binary Gradient-based optimizer for feature selection. <i>Mathematical Biosciences and Engineering</i> , 2021, 18, 3813-3854.	1.9	40
72	IoT Workflow Scheduling Using Intelligent Arithmetic Optimization Algorithm in Fog Computing. <i>Computational Intelligence and Neuroscience</i> , 2021, 2021, 1-14.	1.7	40

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73	Modified Remora Optimization Algorithm for Global Optimization and Multilevel Thresholding Image Segmentation. <i>Mathematics</i> , 2022, 10, 1014.	2.2	40
74	Binary Aquila Optimizer for Selecting Effective Features from Medical Data: A COVID-19 Case Study. <i>Mathematics</i> , 2022, 10, 1929.	2.2	40
75	Hybridizing cuckoo search algorithm with hill climbing for numerical optimization problems. , 2017, , .		39
76	An Improved Wild Horse Optimizer for Solving Optimization Problems. <i>Mathematics</i> , 2022, 10, 1311.	2.2	39
77	Unsupervised feature selection technique based on genetic algorithm for improving the Text Clustering. , 2016, , .		37
78	Dragonfly algorithm: a comprehensive survey of its results, variants, and applications. <i>Multimedia Tools and Applications</i> , 2021, 80, 14979-15016.	3.9	37
79	Sentiment Analysis in Healthcare: A Brief Review. <i>Studies in Computational Intelligence</i> , 2020, , 129-141.	0.9	37
80	Estimating the density of hybrid nanofluids for thermal energy application: Application of non-parametric and evolutionary polynomial regression data-intelligent techniques. <i>Measurement: Journal of the International Measurement Confederation</i> , 2022, 189, 110524.	5.0	37
81	Recent Advances in Harris Hawks Optimization: A Comparative Study and Applications. <i>Electronics (Switzerland)</i> , 2022, 11, 1919.	3.1	37
82	An Electric Fish-Based Arithmetic Optimization Algorithm for Feature Selection. <i>Entropy</i> , 2021, 23, 1189.	2.2	35
83	Text Summarization: A Brief Review. <i>Studies in Computational Intelligence</i> , 2020, , 1-15.	0.9	35
84	Multi-objectives-based text clustering technique using K-mean algorithm. , 2016, , .		34
85	An effective control design approach based on novel enhanced aquila optimizer for automatic voltage regulator. <i>Artificial Intelligence Review</i> , 2023, 56, 1731-1762.	15.7	34
86	A krill herd algorithm for efficient text documents clustering. , 2016, , .		33
87	A parallel hybrid krill herd algorithm for feature selection. <i>International Journal of Machine Learning and Cybernetics</i> , 2021, 12, 783-806.	3.6	33
88	Machine Learning Technologies for Big Data Analytics. <i>Electronics (Switzerland)</i> , 2022, 11, 421.	3.1	33
89	Parameterization of photovoltaic solar cell double-diode model based on improved arithmetic optimization algorithm. <i>Optik</i> , 2022, 253, 168600.	2.9	33
90	Boosting chameleon swarm algorithm with consumption AEO operator for global optimization and feature selection. <i>Knowledge-Based Systems</i> , 2022, 246, 108743.	7.1	33

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91	An efficient equilibrium optimizer with support vector regression for stock market prediction. <i>Neural Computing and Applications</i> , 2022, 34, 3165-3200.	5.6	32
92	MTV-MFO: Multi-Trial Vector-Based Moth-Flame Optimization Algorithm. <i>Symmetry</i> , 2021, 13, 2388.	2.2	32
93	Enhanced Slime Mould Algorithm for Multilevel Thresholding Image Segmentation Using Entropy Measures. <i>Entropy</i> , 2021, 23, 1700.	2.2	31
94	Hybrid Reptile Search Algorithm and Remora Optimization Algorithm for Optimization Tasks and Data Clustering. <i>Symmetry</i> , 2022, 14, 458.	2.2	30
95	A hybrid strategy for krill herd algorithm with harmony search algorithm to improve the data clustering?. <i>Intelligent Decision Technologies</i> , 2018, 12, 3-14.	0.9	29
96	Selection scheme sensitivity for a hybrid Salp Swarm Algorithm: analysis and applications. <i>Engineering With Computers</i> , 2022, 38, 1149-1175.	6.1	29
97	Feature selection method using improved CHI Square on Arabic text classifiers: analysis and application. <i>Multimedia Tools and Applications</i> , 2021, 80, 10373-10390.	3.9	29
98	Prediction of software vulnerability based deep symbiotic genetic algorithms: Phenotyping of dominant-features. <i>Applied Intelligence</i> , 2021, 51, 8271-8287.	5.3	29
99	Improved slime mould algorithm by opposition-based learning and Levy flight distribution for global optimization and advances in real-world engineering problems. <i>Journal of Ambient Intelligence and Humanized Computing</i> , 2023, 14, 1163-1202.	4.9	29
100	Radiology Imaging Scans for Early Diagnosis of Kidney Tumors: A Review of Data Analytics-Based Machine Learning and Deep Learning Approaches. <i>Big Data and Cognitive Computing</i> , 2022, 6, 29.	4.7	29
101	An Improved Arithmetic Optimization Algorithm for design of a microgrid with energy storage system: Case study of El Kharga Oasis, Egypt. <i>Journal of Energy Storage</i> , 2022, 51, 104343.	8.1	29
102	Computational assessment of groundwater salinity distribution within coastal multi-aquifers of Bangladesh. <i>Scientific Reports</i> , 2022, 12, .	3.3	29
103	Feature Selection with $\hat{I}^2$ -Hill Climbing Search for Text Clustering Application. , 2017, , .		27
104	A Hybrid SSA and SMA with Mutation Opposition-Based Learning for Constrained Engineering Problems. <i>Computational Intelligence and Neuroscience</i> , 2021, 2021, 1-21.	1.7	27
105	An improved chaotic image encryption algorithm using Hadoop-based MapReduce framework for massive remote sensed images in parallel IoT applications. <i>Cluster Computing</i> , 2022, 25, 999-1013.	5.0	27
106	A Grey Wolf Optimizer for Text Document Clustering. <i>Journal of Intelligent Systems</i> , 2019, 29, 814-830.	1.6	26
107	A novel deep learning-based feature selection model for improving the static analysis of vulnerability detection. <i>Neural Computing and Applications</i> , 2021, 33, 14049-14067.	5.6	26
108	Modified Artificial Ecosystem-Based Optimization for Multilevel Thresholding Image Segmentation. <i>Mathematics</i> , 2021, 9, 2363.	2.2	26

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109	Enhanced Flow Direction Arithmetic Optimization Algorithm for mathematical optimization problems with applications of data clustering. <i>Engineering Analysis With Boundary Elements</i> , 2022, 138, 13-29.	3.7	26
110	Boosting arithmetic optimization algorithm by sine cosine algorithm and levy flight distribution for solving engineering optimization problems. <i>Neural Computing and Applications</i> , 2022, 34, 8823-8852.	5.6	25
111	Hybrid arithmetic optimization algorithm with hunger games search for global optimization. <i>Multimedia Tools and Applications</i> , 2022, 81, 28755-28778.	3.9	25
112	Boosting Marine Predators Algorithm by Salp Swarm Algorithm for Multilevel Thresholding Image Segmentation. <i>Multimedia Tools and Applications</i> , 2022, 81, 16707-16742.	3.9	25
113	Efficient text document clustering approach using multi-search Arithmetic Optimization Algorithm. <i>Knowledge-Based Systems</i> , 2022, 248, 108833.	7.1	25
114	Modified Krill Herd Algorithm for Global Numerical Optimization Problems. <i>EAI/Springer Innovations in Communication and Computing</i> , 2019, , 205-221.	1.1	24
115	A Normal Distributed Dwarf Mongoose Optimization Algorithm for Global Optimization and Data Clustering Applications. <i>Symmetry</i> , 2022, 14, 1021.	2.2	24
116	Hybridising cuckoo search algorithm for extracting the ODF maxima in spherical harmonic representation. <i>International Journal of Bio-Inspired Computation</i> , 2019, 14, 190.	0.9	23
117	A Novel Theoretical and Practical Methodology for Extracting the Parameters of the Single and Double Diode Photovoltaic Models. <i>IEEE Access</i> , 2022, 10, 11110-11137.	4.2	23
118	A generative adversarial network for synthetization of regions of interest based on digital mammograms. <i>Scientific Reports</i> , 2022, 12, 6166.	3.3	23
119	Scientometric Analysis and Classification of Research Using Convolutional Neural Networks: A Case Study in Data Science and Analytics. <i>Electronics (Switzerland)</i> , 2022, 11, 2066.	3.1	23
120	Harris Hawks Optimization Algorithm: Variants and Applications. <i>Archives of Computational Methods in Engineering</i> , 2022, 29, 5579-5603.	10.2	23
121	An improved remora optimization algorithm with autonomous foraging mechanism for global optimization problems. <i>Mathematical Biosciences and Engineering</i> , 2022, 19, 3994-4037.	1.9	22
122	A Hybrid Arithmetic Optimization and Golden Sine Algorithm for Solving Industrial Engineering Design Problems. <i>Mathematics</i> , 2022, 10, 1567.	2.2	22
123	Multi-objective Stochastic Paint Optimizer (MOSPO). <i>Neural Computing and Applications</i> , 2022, 34, 18035-18058.	5.6	22
124	An Intelligent Chimp Optimizer for Scheduling of IoT Application Tasks in Fog Computing. <i>Mathematics</i> , 2022, 10, 1100.	2.2	21
125	Implementation of bio-inspired hybrid algorithm with mutation operator for robotic path planning. <i>Journal of Parallel and Distributed Computing</i> , 2022, 169, 171-184.	4.1	21
126	Early Diagnosis of Alzheimer's Disease Using Cerebral Catheter Angiogram Neuroimaging: A Novel Model Based on Deep Learning Approaches. <i>Big Data and Cognitive Computing</i> , 2022, 6, 2.	4.7	20



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127	Logarithmic spiral search based arithmetic optimization algorithm with selective mechanism and its application to functional electrical stimulation system control. <i>Soft Computing</i> , 2022, 26, 12257-12269.	3.6	20
128	An intelligent cybersecurity system for detecting fake news in social media websites. <i>Soft Computing</i> , 2022, 26, 5577-5591.	3.6	20
129	Cooperative multi-function approach: A new strategy for autonomous ground robotics. <i>Future Generation Computer Systems</i> , 2022, 134, 361-373.	7.5	20
130	A New Stock Price Forecasting Method Using Active Deep Learning Approach. <i>Journal of Open Innovation: Technology, Market, and Complexity</i> , 2022, 8, 96.	5.2	20
131	Unsupervised Text Feature Selection Technique Based on Particle Swarm Optimization Algorithm for Improving the Text Clustering. , 2017, , .		19
132	Fusion of modern meta-heuristic optimization methods using arithmetic optimization algorithm for global optimization tasks. <i>Soft Computing</i> , 2022, 26, 6749-6763.	3.6	19
133	Aquila Optimizer Based PSO Swarm Intelligence for IoT Task Scheduling Application in Cloud Computing. <i>Studies in Computational Intelligence</i> , 2022, , 481-497.	0.9	19
134	Improved Arithmetic Optimization Algorithm for Parameters Extraction of Photovoltaic Solar Cell Single-Diode Model. <i>Arabian Journal for Science and Engineering</i> , 0, , 1.	3.0	18
135	Enhance Teaching-Learning-Based Optimization for Tsallis-Entropy-Based Feature Selection Classification Approach. <i>Processes</i> , 2022, 10, 360.	2.8	18
136	Deep Reinforcement Learning for Integrated Non-Linear Control of Autonomous UAVs. <i>Processes</i> , 2022, 10, 1307.	2.8	18
137	Modified marine predators algorithm for feature selection: case study metabolomics. <i>Knowledge and Information Systems</i> , 2022, 64, 261-287.	3.2	17
138	Classification of Glaucoma Based on Elephant-Herding Optimization Algorithm and Deep Belief Network. <i>Electronics (Switzerland)</i> , 2022, 11, 1763.	3.1	17
139	(AIAM2019) Artificial Intelligence in Software Engineering and inverse: Review. <i>International Journal of Computer Integrated Manufacturing</i> , 2020, 33, 1129-1144.	4.6	16
140	Review and analysis for the Red Deer Algorithm. <i>Journal of Ambient Intelligence and Humanized Computing</i> , 2023, 14, 8375-8385.	4.9	16
141	Black hole algorithm: A comprehensive survey. <i>Applied Intelligence</i> , 2022, 52, 11892-11915.	5.3	16
142	Improved multi-core arithmetic optimization algorithm-based ensemble mutation for multidisciplinary applications. <i>Journal of Intelligent Manufacturing</i> , 2023, 34, 1833-1874.	7.3	16
143	TS-GWO: IoT Tasks Scheduling in Cloud Computing Using Grey Wolf Optimizer. , 2020, , 127-152.		15
144	An Improved Teaching-Learning-Based Optimization Algorithm with Reinforcement Learning Strategy for Solving Optimization Problems. <i>Computational Intelligence and Neuroscience</i> , 2022, 2022, 1-24.	1.7	15

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145	Augmented grasshopper optimization algorithm by differential evolution: a power scheduling application in smart homes. <i>Multimedia Tools and Applications</i> , 2021, 80, 31569-31597.	3.9	14
146	A Comprehensive Survey on the Recent Variants and Applications of Membrane-Inspired Evolutionary Algorithms. <i>Archives of Computational Methods in Engineering</i> , 2022, 29, 3041-3057.	10.2	14
147	Data Driven Model Estimation for Aerial Vehicles: A Perspective Analysis. <i>Processes</i> , 2022, 10, 1236.	2.8	14
148	ECG signal denoising using $\hat{l}^2$ -hill climbing algorithm and wavelet transform. , 2017, , .		13
149	Void Aware Routing Protocols in Underwater Wireless Sensor Networks: Variants and challenges. <i>Journal of Physics: Conference Series</i> , 2020, 1550, 032145.	0.4	13
150	Boosting Atomic Orbit Search Using Dynamic-Based Learning for Feature Selection. <i>Mathematics</i> , 2021, 9, 2786.	2.2	13
151	An Efficient 5G Data Plan Approach Based on Partially Distributed Mobility Architecture. <i>Sensors</i> , 2022, 22, 349.	3.8	13
152	Enhanced Adaptive Neuro-Fuzzy Inference System Using Reptile Search Algorithm for Relating Swelling Potentiality Using Index Geotechnical Properties: A Case Study at El Sherouk City, Egypt. <i>Mathematics</i> , 2021, 9, 3295.	2.2	13
153	A Novel Text Classification Technique Using Improved Particle Swarm Optimization: A Case Study of Arabic Language. <i>Future Internet</i> , 2022, 14, 194.	3.8	13
154	A new hybridization strategy for krill herd algorithm and harmony search algorithm applied to improve the data clustering. , 2017, , .		12
155	Reinforced Learning-Based Robust Control Design for Unmanned Aerial Vehicle. <i>Arabian Journal for Science and Engineering</i> , 2023, 48, 1221-1236.	3.0	12
156	Learning Features Using an optimized Artificial Neural Network for Breast Cancer Diagnosis. <i>SN Computer Science</i> , 2022, 3, 1.	3.6	12
157	A Cox Proportional-Hazards Model Based on an Improved Aquila Optimizer with Whale Optimization Algorithm Operators. <i>Mathematics</i> , 2022, 10, 1273.	2.2	12
158	Improved reptile search algorithm with novel mean transition mechanism for constrained industrial engineering problems. <i>Neural Computing and Applications</i> , 2022, 34, 17257-17277.	5.6	12
159	A Novel Method for the Classification of Butterfly Species Using Pre-Trained CNN Models. <i>Electronics (Switzerland)</i> , 2022, 11, 2016.	3.1	12
160	Optimized task scheduling in cloud computing using improved multi-verse optimizer. <i>Cluster Computing</i> , 2022, 25, 4221-4232.	5.0	12
161	Unsupervised feature selection technique based on harmony search algorithm for improving the text clustering. , 2016, , .		11
162	Sineâ€“Cosine-Barnacles Algorithm Optimizer with disruption operator for global optimization and automatic data clustering. <i>Expert Systems With Applications</i> , 2022, 207, 117993.	7.6	11

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163	An Improved B-hill Climbing Optimization Technique for Solving the Text Documents Clustering Problem. <i>Current Medical Imaging</i> , 2020, 16, 296-306.	0.8	10
164	Multilayer Reversible Data Hiding Based on the Difference Expansion Method Using Multilevel Thresholding of Host Images Based on the Slime Mould Algorithm. <i>Processes</i> , 2022, 10, 858.	2.8	10
165	Improving Parameter Estimation of Fuel Cell Using Honey Badger Optimization Algorithm. <i>Frontiers in Energy Research</i> , 0, 10, .	2.3	10
166	Advances in MapReduce Big Data Processing: Platform, Tools, and Algorithms. <i>Studies in Big Data</i> , 2021, , 105-128.	1.1	9
167	Chaotic quasi-oppositional arithmetic optimization algorithm for thermo-economic design of a shell and tube condenser running with different refrigerant mixture pairs. <i>Neural Computing and Applications</i> , 0, , 1.	5.6	9
168	Predicting Shale Volume from Seismic Traces Using Modified Random Vector Functional Link Based on Transient Search Optimization Model: A Case Study from Netherlands North Sea. <i>Natural Resources Research</i> , 2022, 31, 1775-1791.	4.7	9
169	Dynamic Jellyfish Search Algorithm Based on Simulated Annealing and Disruption Operators for Global Optimization with Applications to Cloud Task Scheduling. <i>Mathematics</i> , 2022, 10, 1894.	2.2	9
170	An intelligent long-lived TCP based on real-time traffic regulation. <i>Multimedia Tools and Applications</i> , 2021, 80, 16763-16780.	3.9	8
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