

# Laith Mohammad Abualigah

## List of Publications by Citations

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172  
papers

5,208  
citations

33  
h-index

67  
g-index

199  
ext. papers

9,001  
ext. citations

3.6  
avg, IF

7.6  
L-index

#	Paper	IF	Citations
172	The Arithmetic Optimization Algorithm. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2021</b> , 376, 113609	5.7	500
171	Aquila Optimizer: A novel meta-heuristic optimization algorithm. <i>Computers and Industrial Engineering</i> , <b>2021</b> , 157, 107250	6.4	347
170	A new feature selection method to improve the document clustering using particle swarm optimization algorithm. <i>Journal of Computational Science</i> , <b>2018</b> , 25, 456-466	3.4	309
169	Unsupervised text feature selection technique based on hybrid particle swarm optimization algorithm with genetic operators for the text clustering. <i>Journal of Supercomputing</i> , <b>2017</b> , 73, 4773-4795	2.5	303
168	Hybrid clustering analysis using improved krill herd algorithm. <i>Applied Intelligence</i> , <b>2018</b> , 48, 4047-4071	4.9	266
167	A combination of objective functions and hybrid Krill herd algorithm for text document clustering analysis. <i>Engineering Applications of Artificial Intelligence</i> , <b>2018</b> , 73, 111-125	7.2	201
166	A novel hybridization strategy for krill herd algorithm applied to clustering techniques. <i>Applied Soft Computing Journal</i> , <b>2017</b> , 60, 423-435	7.5	169
165	Text feature selection with a robust weight scheme and dynamic dimension reduction to text document clustering. <i>Expert Systems With Applications</i> , <b>2017</b> , 84, 24-36	7.8	136
164	Reptile Search Algorithm (RSA): A nature-inspired meta-heuristic optimizer. <i>Expert Systems With Applications</i> , <b>2021</b> , 116158	7.8	120
163	A novel hybrid antlion optimization algorithm for multi-objective task scheduling problems in cloud computing environments. <i>Cluster Computing</i> , <b>2021</b> , 24, 205-223	2.1	109
162	Advances in Sine Cosine Algorithm: A comprehensive survey. <i>Artificial Intelligence Review</i> , <b>2021</b> , 54, 2567-2608	105	
161	A comprehensive review: Krill Herd algorithm (KH) and its applications. <i>Applied Soft Computing Journal</i> , <b>2016</b> , 49, 437-446	7.5	100
160	Salp swarm algorithm: a comprehensive survey. <i>Neural Computing and Applications</i> , <b>2020</b> , 32, 11195-11215	158	98
159	A comprehensive survey of the Grasshopper optimization algorithm: results, variants, and applications. <i>Neural Computing and Applications</i> , <b>2020</b> , 32, 15533-15556	4.8	92
158	Multi-verse optimizer algorithm: a comprehensive survey of its results, variants, and applications. <i>Neural Computing and Applications</i> , <b>2020</b> , 32, 12381-12401	4.8	89
157	Moth Flame optimization algorithm: variants and applications. <i>Neural Computing and Applications</i> , <b>2020</b> , 32, 9859-9884	4.8	79
156	Group search optimizer: a nature-inspired meta-heuristic optimization algorithm with its results, variants, and applications. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 2949-2972	4.8	75

155	Marine Predators Algorithm for Forecasting Confirmed Cases of COVID-19 in Italy, USA, Iran and Korea. <i>International Journal of Environmental Research and Public Health</i> , <b>2020</b> , 17,	4.6	60
154	Ant Lion Optimizer: A Comprehensive Survey of Its Variants and Applications. <i>Archives of Computational Methods in Engineering</i> , <b>2021</b> , 28, 1397-1416	7.8	57
153	Improved binary gray wolf optimizer and SVM for intrusion detection system in wireless sensor networks. <i>Journal of Ambient Intelligence and Humanized Computing</i> , <b>2021</b> , 12, 1559-1576	3.7	55
152	A Comprehensive Survey of the Harmony Search Algorithm in Clustering Applications. <i>Applied Sciences (Switzerland)</i> , <b>2020</b> , 10, 3827	2.6	52
151	Gene selection for cancer classification by combining minimum redundancy maximum relevancy and bat-inspired algorithm. <i>International Journal of Data Mining and Bioinformatics</i> , <b>2017</b> , 19, 32	0.5	50
150	A Novel Evolutionary Arithmetic Optimization Algorithm for Multilevel Thresholding Segmentation of COVID-19 CT Images. <i>Processes</i> , <b>2021</b> , 9, 1155	2.9	50
149	. <i>IEEE Sensors Journal</i> , <b>2021</b> , 1-1	4	50
148	Dwarf Mongoose Optimization Algorithm. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2022</b> , 391, 114570	5.7	49
147	Reliable applied objective for identifying simple and detailed photovoltaic models using modern metaheuristics: Comparative study. <i>Energy Conversion and Management</i> , <b>2020</b> , 223, 113279	10.6	43
146	Big data and E-government: A review <b>2017</b> ,		37
145	Ebola Optimization Search Algorithm: A new nature-inspired metaheuristic algorithm with application in medical image classification problem. <i>IEEE Access</i> , <b>2022</b> , 1-1	3.5	36
144	Development and application of slime mould algorithm for optimal economic emission dispatch. <i>Expert Systems With Applications</i> , <b>2021</b> , 182, 115205	7.8	36
143	COVID-19 X-ray images classification based on enhanced fractional-order cuckoo search optimizer using heavy-tailed distributions. <i>Applied Soft Computing Journal</i> , <b>2021</b> , 101, 107052	7.5	35
142	A New Arithmetic Optimization Algorithm for Solving Real-World Multiobjective CEC-2021 Constrained Optimization Problems: Diversity Analysis and Validations. <i>IEEE Access</i> , <b>2021</b> , 9, 84263-84293	3.5	35
141	Harris hawks optimization: a comprehensive review of recent variants and applications. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 8939-8980	4.8	35
140	Solving capacitated vehicle routing problem using cooperative firefly algorithm. <i>Applied Soft Computing Journal</i> , <b>2021</b> , 108, 107403	7.5	34
139	Nature-Inspired Optimization Algorithms for Text Document Clustering: A Comprehensive Analysis. <i>Algorithms</i> , <b>2020</b> , 13, 345	1.8	31
138	A krill herd algorithm for efficient text documents clustering <b>2016</b> ,		30

137	Unsupervised feature selection technique based on genetic algorithm for improving the Text Clustering <b>2016</b> ,		29
136	Hybridizing cuckoo search algorithm with hill climbing for numerical optimization problems <b>2017</b> ,		27
135	Advances in Meta-Heuristic Optimization Algorithms in Big Data Text Clustering. <i>Electronics (Switzerland)</i> , <b>2021</b> , 10, 101	2.6	27
134	An Improved Hybrid Aquila Optimizer and Harris Hawks Algorithm for Solving Industrial Engineering Optimization Problems. <i>Processes</i> , <b>2021</b> , 9, 1551	2.9	27
133	An improved opposition-based marine predators algorithm for global optimization and multilevel thresholding image segmentation. <i>Knowledge-Based Systems</i> , <b>2021</b> , 229, 107348	7.3	27
132	Intelligent workflow scheduling for Big Data applications in IoT cloud computing environments. <i>Cluster Computing</i> , <b>2021</b> , 24, 2957	2.1	25
131	A hybrid strategy for krill herd algorithm with harmony search algorithm to improve the data clustering?. <i>Intelligent Decision Technologies</i> , <b>2018</b> , 12, 3-14	0.7	24
130	Multi-objectives-based text clustering technique using K-mean algorithm <b>2016</b> ,		24
129	Amended hybrid multi-verse optimizer with genetic algorithm for solving task scheduling problem in cloud computing. <i>Journal of Supercomputing</i> ,1	2.5	23
128	Boosting Arithmetic Optimization Algorithm with Genetic Algorithm Operators for Feature Selection: Case Study on Cox Proportional Hazards Model. <i>Mathematics</i> , <b>2021</b> , 9, 2321	2.3	23
127	A Grey Wolf Optimizer for Text Document Clustering. <i>Journal of Intelligent Systems</i> , <b>2018</b> , 29, 814-830	1.5	22
126	Deep Ensemble of Slime Mold Algorithm and Arithmetic Optimization Algorithm for Global Optimization. <i>Processes</i> , <b>2021</b> , 9, 1774	2.9	22
125	A novel bat algorithm with dynamic membrane structure for optimization problems. <i>Applied Intelligence</i> , <b>2021</b> , 51, 1992-2017	4.9	22
124	A Consolidated Review of Path Planning and Optimization Techniques: Technical Perspectives and Future Directions. <i>Electronics (Switzerland)</i> , <b>2021</b> , 10, 2250	2.6	22
123	A comprehensive survey of clustering algorithms: State-of-the-art machine learning applications, taxonomy, challenges, and future research prospects. <i>Engineering Applications of Artificial Intelligence</i> , <b>2022</b> , 110, 104743	7.2	22
122	Enhanced a hybrid moth-flame optimization algorithm using new selection schemes. <i>Engineering With Computers</i> , <b>2020</b> , 37, 2931	4.5	21
121	Feature Selection with Hill Climbing Search for Text Clustering Application <b>2017</b> ,		21
120	A Novel Weighting Scheme Applied to Improve the Text Document Clustering Techniques. <i>Studies in Computational Intelligence</i> , <b>2018</b> , 305-320	0.8	20

119	Advanced optimization technique for scheduling IoT tasks in cloud-fog computing environments. <i>Future Generation Computer Systems</i> , <b>2021</b> , 124, 142-154	7.5	20
118	Selection scheme sensitivity for a hybrid Salp Swarm Algorithm: analysis and applications. <i>Engineering With Computers</i> , <b>2020</b> , 1	4.5	19
117	An Improved Moth-Flame Optimization Algorithm with Adaptation Mechanism to Solve Numerical and Mechanical Engineering Problems.. <i>Entropy</i> , <b>2021</b> , 23,	2.8	19
116	Improved Slime Mould Algorithm based on Firefly Algorithm for feature selection: A case study on QSAR model. <i>Engineering With Computers</i> ,1	4.5	19
115	Advanced Metaheuristic Techniques for Mechanical Design Problems: Review. <i>Archives of Computational Methods in Engineering</i> ,1	7.8	19
114	Modified Krill Herd Algorithm for Global Numerical Optimization Problems. <i>EAI/Springer Innovations in Communication and Computing</i> , <b>2019</b> , 205-221	0.6	19
113	Machine learning in medical applications: A review of state-of-the-art methods.. <i>Computers in Biology and Medicine</i> , <b>2022</b> , 145, 105458	7	19
112	Migration-Based Moth-Flame Optimization Algorithm. <i>Processes</i> , <b>2021</b> , 9, 2276	2.9	18
111	Unsupervised Text Feature Selection Technique Based on Particle Swarm Optimization Algorithm for Improving the Text Clustering <b>2017</b> ,		18
110	Hybridising cuckoo search algorithm for extracting the ODF maxima in spherical harmonic representation. <i>International Journal of Bio-Inspired Computation</i> , <b>2019</b> , 14, 190	2.9	18
109	A parallel hybrid krill herd algorithm for feature selection. <i>International Journal of Machine Learning and Cybernetics</i> , <b>2021</b> , 12, 783-806	3.8	18
108	A novel feature selection method for data mining tasks using hybrid Sine Cosine Algorithm and Genetic Algorithm. <i>Cluster Computing</i> , <b>2021</b> , 24, 2161-2176	2.1	18
107	Lightning search algorithm: a comprehensive survey. <i>Applied Intelligence</i> , <b>2020</b> , 51, 1-24	4.9	17
106	An efficient binary Gradient-based optimizer for feature selection. <i>Mathematical Biosciences and Engineering</i> , <b>2021</b> , 18, 3813-3854	2.1	16
105	Enhanced Slime Mould Algorithm for Multilevel Thresholding Image Segmentation Using Entropy Measures.. <i>Entropy</i> , <b>2021</b> , 23,	2.8	15
104	Social Media Toxicity Classification Using Deep Learning: Real-World Application UK Brexit. <i>Electronics (Switzerland)</i> , <b>2021</b> , 10, 1332	2.6	15
103	Text Summarization: A Brief Review. <i>Studies in Computational Intelligence</i> , <b>2020</b> , 1-15	0.8	14
102	Sentiment Analysis in Healthcare: A Brief Review. <i>Studies in Computational Intelligence</i> , <b>2020</b> , 129-141	0.8	14

101	Advanced metaheuristic optimization techniques in applications of deep neural networks: a review. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 14079	4.8	14
100	Dragonfly algorithm: a comprehensive survey of its results, variants, and applications. <i>Multimedia Tools and Applications</i> , <b>2021</b> , 80, 14979-15016	2.5	14
99	EWOA-OPF: Effective Whale Optimization Algorithm to Solve Optimal Power Flow Problem. <i>Electronics (Switzerland)</i> , <b>2021</b> , 10, 2975	2.6	13
98	Marine predators algorithm for optimal allocation of active and reactive power resources in distribution networks. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 14327	4.8	13
97	A Hybrid SSA and SMA with Mutation Opposition-Based Learning for Constrained Engineering Problems. <i>Computational Intelligence and Neuroscience</i> , <b>2021</b> , 2021, 6379469	3	13
96	An Electric Fish-Based Arithmetic Optimization Algorithm for Feature Selection. <i>Entropy</i> , <b>2021</b> , 23,	2.8	13
95	Feature selection method using improved CHI Square on Arabic text classifiers: analysis and application. <i>Multimedia Tools and Applications</i> , <b>2021</b> , 80, 10373-10390	2.5	12
94	A new hybridization strategy for krill herd algorithm and harmony search algorithm applied to improve the data clustering <b>2017</b> ,		11
93	Prediction of software vulnerability based deep symbiotic genetic algorithms: Phenotyping of dominant-features. <i>Applied Intelligence</i> , <b>2021</b> , 51, 8271	4.9	11
92	Multi-Robot Space Exploration: An Augmented Arithmetic Approach. <i>IEEE Access</i> , <b>2021</b> , 9, 107738-107750	5.5	11
91	Boosted ANFIS model using augmented marine predator algorithm with mutation operators for wind power forecasting. <i>Applied Energy</i> , <b>2022</b> , 314, 118851	10.7	11
90	Modified Remora Optimization Algorithm for Global Optimization and Multilevel Thresholding Image Segmentation. <i>Mathematics</i> , <b>2022</b> , 10, 1014	2.3	11
89	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> , <b>2022</b> , 15, 578	3.1	10
88	An Improved Hybrid Swarm Intelligence for Scheduling IoT Application Tasks in the Cloud. <i>IEEE Transactions on Industrial Informatics</i> , <b>2022</b> , 1-1	11.9	10
87	An improved arithmetic optimization algorithm with forced switching mechanism for global optimization problems.. <i>Mathematical Biosciences and Engineering</i> , <b>2022</b> , 19, 473-512	2.1	10
86	Modified Artificial Ecosystem-Based Optimization for Multilevel Thresholding Image Segmentation. <i>Mathematics</i> , <b>2021</b> , 9, 2363	2.3	10
85	Hybrid Aquila optimizer with arithmetic optimization algorithm for global optimization tasks. <i>Soft Computing</i> , 1	3.5	10
84	MTV-MFO: Multi-Trial Vector-Based Moth-Flame Optimization Algorithm. <i>Symmetry</i> , <b>2021</b> , 13, 2388	2.7	10

83	ECG signal denoising using Hill climbing algorithm and wavelet transform <b>2017</b> ,		9
82	A novel intelligent deep learning predictive model for meteorological drought forecasting. <i>Journal of Ambient Intelligence and Humanized Computing</i> ,1	3.7	9
81	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> , <b>2022</b> , 6, 2	3.5	9
80	IoT Workflow Scheduling Using Intelligent Arithmetic Optimization Algorithm in Fog Computing.. <i>Computational Intelligence and Neuroscience</i> , <b>2021</b> , 2021, 9114113	3	9
79	Chaotic binary Group Search Optimizer for feature selection. <i>Expert Systems With Applications</i> , <b>2022</b> , 192, 116368	7.8	9
78	Void Aware Routing Protocols in Underwater Wireless Sensor Networks: Variants and challenges. <i>Journal of Physics: Conference Series</i> , <b>2020</b> , 1550, 032145	0.3	8
77	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> , <b>2022</b> , 34, 4081	4.8	8
76	Review and analysis for the Red Deer Algorithm. <i>Journal of Ambient Intelligence and Humanized Computing</i> , <b>2021</b> , 1-11	3.7	8
75	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> ,1	3.7	8
74	Unsupervised feature selection technique based on harmony search algorithm for improving the text clustering <b>2016</b> ,		8
73	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> , <b>2022</b> , 6, 29	3.5	8
72	An Improved Wild Horse Optimizer for Solving Optimization Problems. <i>Mathematics</i> , <b>2022</b> , 10, 1311	2.3	8
71	Enhanced Remora Optimization Algorithm for Solving Constrained Engineering Optimization Problems. <i>Mathematics</i> , <b>2022</b> , 10, 1696	2.3	8
70	An Improved B-hill Climbing Optimization Technique for Solving the Text Documents Clustering Problem. <i>Current Medical Imaging</i> , <b>2020</b> , 16, 296-306	1.2	7
69	An intelligent long-lived TCP based on real-time traffic regulation. <i>Multimedia Tools and Applications</i> , <b>2021</b> , 80, 16763-16780	2.5	7
68	Hybrid Reptile Search Algorithm and Remora Optimization Algorithm for Optimization Tasks and Data Clustering. <i>Symmetry</i> , <b>2022</b> , 14, 458	2.7	7
67	(AIAM2019) Artificial Intelligence in Software Engineering and inverse: Review. <i>International Journal of Computer Integrated Manufacturing</i> , <b>2020</b> , 33, 1129-1144	4.3	6
66	Parameterization of photovoltaic solar cell double-diode model based on improved arithmetic optimization algorithm. <i>Optik</i> , <b>2022</b> , 253, 168600	2.5	6



65	Improved Arithmetic Optimization Algorithm for Parameters Extraction of Photovoltaic Solar Cell Single-Diode Model. <i>Arabian Journal for Science and Engineering</i> ,1	2.5	6
64	TS-GWO: IoT Tasks Scheduling in Cloud Computing Using Grey Wolf Optimizer <b>2020</b> , 127-152		6
63	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> , <b>2021</b> , 110524	4.6	6
62	A novel deep learning-based feature selection model for improving the static analysis of vulnerability detection. <i>Neural Computing and Applications</i> ,1	4.8	6
61	Enhance Teaching-Learning-Based Optimization for Tsallis-Entropy-Based Feature Selection Classification Approach. <i>Processes</i> , <b>2022</b> , 10, 360	2.9	6
60	Binary Aquila Optimizer for Selecting Effective Features from Medical Data: A COVID-19 Case Study. <i>Mathematics</i> , <b>2022</b> , 10, 1929	2.3	6
59	Hybrid Harmony Search Algorithm to Solve the Feature Selection for Data Mining Applications <b>2020</b> , 19-37		5
58	An Efficient 5G Data Plan Approach Based on Partially Distributed Mobility Architecture.. <i>Sensors</i> , <b>2022</b> , 22,	3.8	5
57	Improved multi-core arithmetic optimization algorithm-based ensemble mutation for multidisciplinary applications. <i>Journal of Intelligent Manufacturing</i> ,1	6.7	5
56	Boosting Atomic Orbit Search Using Dynamic-Based Learning for Feature Selection. <i>Mathematics</i> , <b>2021</b> , 9, 2786	2.3	5
55	Advances in MapReduce Big Data Processing: Platform, Tools, and Algorithms. <i>Studies in Big Data</i> , <b>2021</b> , 105-128	0.9	5
54	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> , <b>2022</b> , 51, 104343	7.8	5
53	Classification of Glaucoma Based on Elephant-Herding Optimization Algorithm and Deep Belief Network. <i>Electronics (Switzerland)</i> , <b>2022</b> , 11, 1763	2.6	5
52	Green Communication for Underwater Wireless Sensor Networks: Triangle Metric Based Multi-Layered Routing Protocol. <i>Sensors</i> , <b>2020</b> , 20,	3.8	4
51	An efficient equilibrium optimizer with support vector regression for stock market prediction. <i>Neural Computing and Applications</i> ,	4.8	4
50	Augmented grasshopper optimization algorithm by differential evolution: a power scheduling application in smart homes. <i>Multimedia Tools and Applications</i> , <b>2021</b> , 80, 31569	2.5	4
49	An improved remora optimization algorithm with autonomous foraging mechanism for global optimization problems.. <i>Mathematical Biosciences and Engineering</i> , <b>2022</b> , 19, 3994-4037	2.1	4
48	Boosting Marine Predators Algorithm by Salp Swarm Algorithm for Multilevel Thresholding Image Segmentation.. <i>Multimedia Tools and Applications</i> , <b>2022</b> , 1-36	2.5	4



47	An Improved Teaching-Learning-Based Optimization Algorithm with Reinforcement Learning Strategy for Solving Optimization Problems.. <i>Computational Intelligence and Neuroscience</i> , <b>2022</b> , 2022, 1535957	3	4
46	Enhanced Flow Direction Arithmetic Optimization Algorithm for mathematical optimization problems with applications of data clustering. <i>Engineering Analysis With Boundary Elements</i> , <b>2022</b> , 138, 13-29	2.6	4
45	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> , <b>2021</b> , 9, 3295	2.3	4
44	An enhanced Grey Wolf Optimizer based Particle Swarm Optimizer for intrusion detection system in wireless sensor networks. <i>Wireless Networks</i> , <b>2022</b> , 28, 721	2.5	3
43	A Novel Theoretical and Practical Methodology for Extracting the Parameters of the Single and Double Diode Photovoltaic Models. <i>IEEE Access</i> , <b>2022</b> , 10, 11110-11137	3.5	3
42	Modified marine predators algorithm for feature selection: case study metabolomics. <i>Knowledge and Information Systems</i> , <b>2022</b> , 64, 261-287	2.4	3
41	An improved chaotic image encryption algorithm using Hadoop-based MapReduce framework for massive remote sensed images in parallel IoT applications. <i>Cluster Computing</i> ,1	2.1	3
40	Survey on Twitter Sentiment Analysis: Architecture, Classifications, and Challenges. <i>Signals and Communication Technology</i> , <b>2021</b> , 1-18	0.5	3
39	A Novel Instance Segmentation Algorithm Based on Improved Deep Learning algorithm for Multi-object Images. <i>Jordanian Journal of Computers and Information Technology</i> , <b>2021</b> , 1	1	3
38	Improved near-lossless technique using the Huffman coding for enhancing the quality of image compression. <i>Multimedia Tools and Applications</i> ,1	2.5	3
37	An Intelligent Chimp Optimizer for Scheduling of IoT Application Tasks in Fog Computing. <i>Mathematics</i> , <b>2022</b> , 10, 1100	2.3	3
36	Aquila Optimizer Based PSO Swarm Intelligence for IoT Task Scheduling Application in Cloud Computing. <i>Studies in Computational Intelligence</i> , <b>2022</b> , 481-497	0.8	3
35	Big Data Analysis Using Hybrid Meta-Heuristic Optimization Algorithm and MapReduce Framework. <i>Studies in Computational Intelligence</i> , <b>2022</b> , 181-223	0.8	3
34	A Comprehensive Survey on the Recent Variants and Applications of Membrane-Inspired Evolutionary Algorithms. <i>Archives of Computational Methods in Engineering</i> ,1	7.8	2
33	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> ,1	4.8	2
32	Development of a Real-Time Dynamic Weighting Method in Routing for Congestion Control: Application and Analysis. <i>Wireless Personal Communications</i> , <b>2021</b> , 118, 755-772	1.9	2
31	Boosting arithmetic optimization algorithm by sine cosine algorithm and levy flight distribution for solving engineering optimization problems. <i>Neural Computing and Applications</i> ,1	4.8	2
30	Hybrid arithmetic optimization algorithm with hunger games search for global optimization. <i>Multimedia Tools and Applications</i> ,1	2.5	2

29	Boosting chameleon swarm algorithm with consumption AEO operator for global optimization and feature selection. <i>Knowledge-Based Systems</i> , <b>2022</b> , 108743	7.3	2
28	Learning Features Using an optimized Artificial Neural Network for Breast Cancer Diagnosis. <i>SN Computer Science</i> , <b>2022</b> , 3, 1	2	2
27	A generative adversarial network for synthetization of regions of interest based on digital mammograms.. <i>Scientific Reports</i> , <b>2022</b> , 12, 6166	4.9	2
26	A Cox Proportional-Hazards Model Based on an Improved Aquila Optimizer with Whale Optimization Algorithm Operators. <i>Mathematics</i> , <b>2022</b> , 10, 1273	2.3	2
25	Efficient text document clustering approach using multi-search Arithmetic Optimization Algorithm. <i>Knowledge-Based Systems</i> , <b>2022</b> , 248, 108833	7.3	2
24	An effective control design approach based on novel enhanced aquila optimizer for automatic voltage regulator. <i>Artificial Intelligence Review</i> ,	9.7	2
23	Application of Red Deer Algorithm in Optimizing Complex functions <b>2021</b> ,		1
22	Regional analytics and forecasting for most affected stock markets: The case of GCC stock markets during COVID-19 pandemic. <i>International Journal of Systems Assurance Engineering and Management</i> ,1	1.3	1
21	An AI Based Irrigation and Weather Forecasting System utilizing LoRaWAN and Cloud Computing Technologies <b>2021</b> ,		1
20	Hybrid Harris Hawks Optimization with Differential Evolution for Data Clustering. <i>Studies in Computational Intelligence</i> , <b>2021</b> , 267-299	0.8	1
19	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> , <b>2022</b> , 10, 858	2.9	1
18	A Hybrid Arithmetic Optimization and Golden Sine Algorithm for Solving Industrial Engineering Design Problems. <i>Mathematics</i> , <b>2022</b> , 10, 1567	2.3	1
17	Cooperative multi-function approach: A new strategy for autonomous ground robotics. <i>Future Generation Computer Systems</i> , <b>2022</b> , 134, 361-373	7.5	1
16	A Normal Distributed Dwarf Mongoose Optimization Algorithm for Global Optimization and Data Clustering Applications. <i>Symmetry</i> , <b>2022</b> , 14, 1021	2.7	1
15	A New Stock Price Forecasting Method Using Active Deep Learning Approach. <i>Journal of Open Innovation: Technology, Market, and Complexity</i> , <b>2022</b> , 8, 96	3.7	1
14	Improved gradual change-based Harris Hawks optimization for real-world engineering design problems. <i>Engineering With Computers</i> ,1	4.5	0
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9	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> ,1	4.9	○
8	Modified Harris Hawks Optimization Algorithm with Exploration Factor and Random Walk Strategy.. <i>Computational Intelligence and Neuroscience</i> , <b>2022</b> , 2022, 4673665	3	○
7	Opposition-Based Arithmetic Optimization Algorithm with Varying Acceleration Coefficient for Function Optimization and Control of FES System. <i>Algorithms for Intelligent Systems</i> , <b>2022</b> , 283-293	0.5	○
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2	Bio-inspired innovative green fault recovery modelling for macro-femtocell mobile network. <i>International Journal of Bio-Inspired Computation</i> , <b>2019</b> , 14, 181	2.9	
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