Mahdi Panahi

List of Publications by Year
in descending order

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191 papers	22,010 citations	4146 87 h-index	9861 141 g-index
198 all docs	198 docs citations	198 times ranked	8239 citing authors

#	Article	IF	Citations
1	Spatial prediction models for shallow landslide hazards: a comparative assessment of the efficacy of support vector machines, artificial neural networks, kernel logistic regression, and logistic model tree. Landslides, 2016, 13, 361-378.	5.4	865
2	A comparative study of logistic model tree, random forest, and classification and regression tree models for spatial prediction of landslide susceptibility. Catena, 2017, 151, 147-160.	5.0	637
3	A comparative assessment of support vector regression, artificial neural networks, and random forests for predicting and mapping soil organic carbon stocks across an Afromontane landscape. Ecological Indicators, 2015, 52, 394-403.	6.3	582
4	A comparative assessment of decision trees algorithms for flash flood susceptibility modeling at Haraz watershed, northern Iran. Science of the Total Environment, 2018, 627, 744-755.	8.0	494
5	Hybrid integration of Multilayer Perceptron Neural Networks and machine learning ensembles for landslide susceptibility assessment at Himalayan area (India) using GIS. Catena, 2017, 149, 52-63.	5.0	467
6	A novel hybrid artificial intelligence approach for flood susceptibility assessment. Environmental Modelling and Software, 2017, 95, 229-245.	4.5	416
7	A comparative study of different machine learning methods for landslide susceptibility assessment: A case study of Uttarakhand area (India). Environmental Modelling and Software, 2016, 84, 240-250.	4.5	377
8	Landslide Susceptibility Assessment in Vietnam Using Support Vector Machines, Decision Tree, and NaÃ¯ve Bayes Models. Mathematical Problems in Engineering, 2012, 2012, 1-26.	1.1	369
9	Landslide susceptibility mapping using J48 Decision Tree with AdaBoost, Bagging and Rotation Forest ensembles in the Guangchang area (China). Catena, 2018, 163, 399-413.	5.0	367
10	Spatial prediction of landslide hazard at the Yihuang area (China) using two-class kernel logistic regression, alternating decision tree and support vector machines. Catena, 2015, 133, 266-281.	5.0	349
11	Spatial prediction of landslide hazards in Hoa Binh province (Vietnam): A comparative assessment of the efficacy of evidential belief functions and fuzzy logic models. Catena, 2012, 96, 28-40.	5.0	330
12	Landslide susceptibility mapping at Hoa Binh province (Vietnam) using an adaptive neuro-fuzzy inference system and GIS. Computers and Geosciences, 2012, 45, 199-211.	4.2	310
13	Flood susceptibility assessment in Hengfeng area coupling adaptive neuro-fuzzy inference system with genetic algorithm and differential evolution. Science of the Total Environment, 2018, 621, 1124-1141.	8.0	298
14	Landslide susceptibility analysis in the Hoa Binh province of Vietnam using statistical index and logistic regression. Natural Hazards, 2011, 59, 1413-1444.	3.4	297
15	Improved landslide assessment using support vector machine with bagging, boosting, and stacking ensemble machine learning framework in a mountainous watershed, Japan. Landslides, 2020, 17, 641-658.	5.4	294
16	A hybrid artificial intelligence approach using GIS-based neural-fuzzy inference system and particle swarm optimization for forest fire susceptibility modeling at a tropical area. Agricultural and Forest Meteorology, 2017, 233, 32-44.	4.8	287
17	Hybrid artificial intelligence approach based on neural fuzzy inference model and metaheuristic optimization for flood susceptibilitgy modeling in a high-frequency tropical cyclone area using GIS. Journal of Hydrology, 2016, 540, 317-330.	5.4	275
18	Performance evaluation of GIS-based new ensemble data mining techniques of adaptive neuro-fuzzy inference system (ANFIS) with genetic algorithm (GA), differential evolution (DE), and particle swarm optimization (PSO) for landslide spatial modelling. Catena, 2017, 157, 310-324.	5.0	267

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19	Landslide susceptibility assesssment in the Uttarakhand area (India) using GIS: a comparison study of prediction capability of naÂ¯ve bayes, multilayer perceptron neural networks, and functional trees methods. Theoretical and Applied Climatology, 2017, 128, 255-273.	2.8	264
20	Comparing the prediction performance of a Deep Learning Neural Network model with conventional machine learning models in landslide susceptibility assessment. Catena, 2020, 188, 104426.	5.0	249
21	GIS-based groundwater potential analysis using novel ensemble weights-of-evidence with logistic regression and functional tree models. Science of the Total Environment, 2018, 634, 853-867.	8.0	245
22	Landslide susceptibility modeling using Reduced Error Pruning Trees and different ensemble techniques: Hybrid machine learning approaches. Catena, 2019, 175, 203-218.	5.0	229
23	GIS-based modeling of rainfall-induced landslides using data mining-based functional trees classifier with AdaBoost, Bagging, and MultiBoost ensemble frameworks. Environmental Earth Sciences, 2016, 75, 1.	2.7	215
24	Spatial prediction of landslide susceptibility using an adaptive neuro-fuzzy inference system combined with frequency ratio, generalized additive model, and support vector machine techniques. Geomorphology, 2017, 297, 69-85.	2.6	215
25	A novel hybrid approach based on a swarm intelligence optimized extreme learning machine for flash flood susceptibility mapping. Catena, 2019, 179, 184-196.	5.0	214
26	Evaluation of deep learning algorithms for national scale landslide susceptibility mapping of Iran. Geoscience Frontiers, 2021, 12, 505-519.	8.4	212
27	Shallow landslide susceptibility assessment using a novel hybrid intelligence approach. Environmental Earth Sciences, 2017, 76, 1.	2.7	211
28	Applying population-based evolutionary algorithms and a neuro-fuzzy system for modeling landslide susceptibility. Catena, 2019, 172, 212-231.	5.0	210
29	Spatial prediction of rainfall-induced landslides for the Lao Cai area (Vietnam) using a hybrid intelligent approach of least squares support vector machines inference model and artificial bee colony optimization. Landslides, 2017, 14, 447-458.	5.4	207
30	GIS-based landslide susceptibility evaluation using a novel hybrid integration approach of bivariate statistical based random forest method. Catena, 2018, 164, 135-149.	5.0	207
31	Meta optimization of an adaptive neuro-fuzzy inference system with grey wolf optimizer and biogeography-based optimization algorithms for spatial prediction of landslide susceptibility. Catena, 2019, 175, 430-445.	5.0	199
32	Flash flood susceptibility modeling using an optimized fuzzy rule based feature selection technique and tree based ensemble methods. Science of the Total Environment, 2019, 668, 1038-1054.	8.0	195
33	Hybrid artificial intelligence models based on a neuro-fuzzy system and metaheuristic optimization algorithms for spatial prediction of wildfire probability. Agricultural and Forest Meteorology, 2019, 266-267, 198-207.	4.8	194
34	Spatial prediction of groundwater potential mapping based on convolutional neural network (CNN) and support vector regression (SVR). Journal of Hydrology, 2020, 588, 125033.	5.4	188
35	Spatial prediction of landslides using a hybrid machine learning approach based on Random Subspace and Classification and Regression Trees. Geomorphology, 2018, 303, 256-270.	2.6	180
36	New Hybrids of ANFIS with Several Optimization Algorithms for Flood Susceptibility Modeling. Water (Switzerland), 2018, 10, 1210.	2.7	174

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37	Flood susceptibility mapping in Dingnan County (China) using adaptive neuro-fuzzy inference system with biogeography based optimization and imperialistic competitive algorithm. Journal of Environmental Management, 2019, 247, 712-729.	7.8	169
38	Landslide susceptibility assessment in the Hoa Binh province of Vietnam: A comparison of the Levenbergâ€“Marquardt and Bayesian regularized neural networks. Geomorphology, 2012, 171-172, 12-29.	2.6	166
39	A novel hybrid intelligent model of support vector machines and the MultiBoost ensemble for landslide susceptibility modeling. Bulletin of Engineering Geology and the Environment, 2019, 78, 2865-2886.	3.5	163
40	Predicting uncertainty of machine learning models for modelling nitrate pollution of groundwater using quantile regression and UNEEC methods. Science of the Total Environment, 2019, 688, 855-866.	8.0	155
41	A comparison study of DRASTIC methods with various objective methods for groundwater vulnerability assessment. Science of the Total Environment, 2018, 642, 1032-1049.	8.0	151
42	Spatial prediction of groundwater potentiality using ANFIS ensembled with teaching-learning-based and biogeography-based optimization. Journal of Hydrology, 2019, 572, 435-448.	5.4	150
43	Prediction of shear strength of soft soil using machine learning methods. Catena, 2018, 166, 181-191.	5.0	146
44	Novel GIS Based Machine Learning Algorithms for Shallow Landslide Susceptibility Mapping. Sensors, 2018, 18, 3777.	3.8	146
45	A novel artificial intelligence approach based on Multi-layer Perceptron Neural Network and Biogeography-based Optimization for predicting coefficient of consolidation of soil. Catena, 2019, 173, 302-311.	5.0	143
46	Hybrid Machine Learning Approaches for Landslide Susceptibility Modeling. Forests, 2019, 10, 157.	2.1	136
47	Landslide susceptibility modeling based on ANFIS with teaching-learning-based optimization and Satin bowerbird optimizer. Geoscience Frontiers, 2021, 12, 93-107.	8.4	133
48	A hybrid machine learning ensemble approach based on a Radial Basis Function neural network and Rotation Forest for landslide susceptibility modeling: A case study in the Himalayan area, India. International Journal of Sediment Research, 2018, 33, 157-170.	3.5	131
49	Groundwater spring potential modelling: Comprising the capability and robustness of three different modeling approaches. Journal of Hydrology, 2018, 565, 248-261.	5.4	129
50	Spatial Prediction of Landslide Susceptibility Using GIS-Based Data Mining Techniques of ANFIS with Whale Optimization Algorithm (WOA) and Grey Wolf Optimizer (GWO). Applied Sciences (Switzerland), 2019, 9, 3755.	2.5	129
51	Development of artificial intelligence models for the prediction of Compression Coefficient of soil: An application of Monte Carlo sensitivity analysis. Science of the Total Environment, 2019, 679, 172-184.	8.0	128
52	Optimization of state-of-the-art fuzzy-metaheuristic ANFIS-based machine learning models for flood susceptibility prediction mapping in the Middle Ganga Plain, India. Science of the Total Environment, 2021, 750, 141565.	8.0	126
53	Novel Hybrid Evolutionary Algorithms for Spatial Prediction of Floods. Scientific Reports, 2018, 8, 15364.	3.3	124
54	Spatial prediction of groundwater spring potential mapping based on an adaptive neuro-fuzzy inference system and metaheuristic optimization. Hydrology and Earth System Sciences, 2018, 22, 4771-4792.	4.9	122

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55	Spatial prediction of landslide susceptibility using data mining-based kernel logistic regression, naive Bayes and RBFNetwork models for the Long County area (China). Bulletin of Engineering Geology and the Environment, 2019, 78, 247-266.	3.5	122
56	Tropical Forest Fire Susceptibility Mapping at the Cat Ba National Park Area, Hai Phong City, Vietnam, Using GIS-Based Kernel Logistic Regression. Remote Sensing, 2016, 8, 347.	4.0	121
57	Landslide Detection and Susceptibility Mapping by AIRSAR Data Using Support Vector Machine and Index of Entropy Models in Cameron Highlands, Malaysia. Remote Sensing, 2018, 10, 1527.	4.0	121
58	Landslide Susceptibility Evaluation and Management Using Different Machine Learning Methods in The Gallicash River Watershed, Iran. Remote Sensing, 2020, 12, 475.	4.0	121
59	Land Subsidence Susceptibility Mapping in South Korea Using Machine Learning Algorithms. Sensors, 2018, 18, 2464.	3.8	120
60	Multi-hazard probability assessment and mapping in Iran. Science of the Total Environment, 2019, 692, 556-571.	8.0	119
61	A novel ensemble modeling approach for the spatial prediction of tropical forest fire susceptibility using LogitBoost machine learning classifier and multi-source geospatial data. Theoretical and Applied Climatology, 2019, 137, 637-653.	2.8	119
62	Spatial prediction of rainfall-induced shallow landslides using hybrid integration approach of Least-Squares Support Vector Machines and differential evolution optimization: a case study in Central Vietnam. International Journal of Digital Earth, 2016, 9, 1077-1097.	3.9	117
63	Prediction of soil compression coefficient for urban housing project using novel integration machine learning approach of swarm intelligence and Multi-layer Perceptron Neural Network. Advanced Engineering Informatics, 2018, 38, 593-604.	8.0	117
64	Rotation forest fuzzy rule-based classifier ensemble for spatial prediction of landslides using GIS. Natural Hazards, 2016, 83, 97-127.	3.4	116
65	Spatial prediction of landslide susceptibility using hybrid support vector regression (SVR) and the adaptive neuro-fuzzy inference system (ANFIS) with various metaheuristic algorithms. Science of the Total Environment, 2020, 741, 139937.	8.0	113
66	Harris Hawks Optimization: A Novel Swarm Intelligence Technique for Spatial Assessment of Landslide Susceptibility. Sensors, 2019, 19, 3590.	3.8	111
67	A Comparative Study of Least Square Support Vector Machines and Multiclass Alternating Decision Trees for Spatial Prediction of Rainfall-Induced Landslides in a Tropical Cyclones Area. Geotechnical and Geological Engineering, 2016, 34, 1807-1824.	1.7	110
68	Hybrid computational intelligence models for groundwater potential mapping. Catena, 2019, 182, 104101.	5.0	110
69	A Hybrid GIS Multi-Criteria Decision-Making Method for Flood Susceptibility Mapping at Shangyou, China. Remote Sensing, 2019, 11, 62.	4.0	110
70	Uncertainties of prediction accuracy in shallow landslide modeling: Sample size and raster resolution. Catena, 2019, 178, 172-188.	5.0	107
71	Rainfall-induced landslide susceptibility assessment at the Chongren area (China) using frequency ratio, certainty factor, and index of entropy. Geocarto International, 0, , 1-16.	3.5	105
72	A novel hybrid integration model using support vector machines and random subspace for weather-triggered landslide susceptibility assessment in the Wuning area (China). Environmental Earth Sciences, 2017, 76, 1.	2.7	105

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73	A novel hybrid approach of Bayesian Logistic Regression and its ensembles for landslide susceptibility assessment. Geocarto International, 2019, 34, 1427-1457.	3.5	105
74	A comparative study between popular statistical and machine learning methods for simulating volume of landslides. Catena, 2017, 157, 213-226.	5.0	104
75	Spatial prediction of landslide hazard at the Luxi area (China) using support vector machines. Environmental Earth Sciences, 2016, 75, 1.	2.7	103
76	A novel fuzzy K-nearest neighbor inference model with differential evolution for spatial prediction of rainfall-induced shallow landslides in a tropical hilly area using GIS. Landslides, 2017, 14, 1-17.	5.4	103
77	Machine learning approaches for spatial modeling of agricultural droughts in the south-east region of Queensland Australia. Science of the Total Environment, 2020, 699, 134230.	8.0	103
78	Fuzzy-metaheuristic ensembles for spatial assessment of forest fire susceptibility. Journal of Environmental Management, 2020, 260, 109867.	7.8	103
79	Landslide Susceptibility Assessment Using Bagging Ensemble Based Alternating Decision Trees, Logistic Regression and J48 Decision Trees Methods: A Comparative Study. Geotechnical and Geological Engineering, 2017, 35, 2597-2611.	1.7	101
80	A Novel Hybrid Swarm Optimized Multilayer Neural Network for Spatial Prediction of Flash Floods in Tropical Areas Using Sentinel-1 SAR Imagery and Geospatial Data. Sensors, 2018, 18, 3704.	3.8	101
81	Identification of areas prone to flash-flood phenomena using multiple-criteria decision-making, bivariate statistics, machine learning and their ensembles. Science of the Total Environment, 2020, 712, 136492.	8.0	101
82	Comparison of four kernel functions used in support vector machines for landslide susceptibility mapping: a case study at Suichuan area (China). Geomatics, Natural Hazards and Risk, 2017, 8, 544-569.	4.3	100
83	Spatial prediction of flood potential using new ensembles of bivariate statistics and artificial intelligence: A case study at the Putna river catchment of Romania. Science of the Total Environment, 2019, 691, 1098-1118.	8.0	99
84	Land subsidence modelling using tree-based machine learning algorithms. Science of the Total Environment, 2019, 672, 239-252.	8.0	99
85	Bagging based Support Vector Machines for spatial prediction of landslides. Environmental Earth Sciences, 2018, 77, 1.	2.7	97
86	Spatial prediction of landslide susceptibility in western Serbia using hybrid support vector regression (SVR) with GWO, BAT and COA algorithms. Geoscience Frontiers, 2021, 12, 101104.	8.4	97
87	Comparison of machine learning models for gully erosion susceptibility mapping. Geoscience Frontiers, 2020, 11, 1609-1620.	8.4	96
88	Effectiveness assessment of Keras based deep learning with different robust optimization algorithms for shallow landslide susceptibility mapping at tropical area. Catena, 2020, 188, 104458.	5.0	96
89	Flash flood susceptibility mapping using a novel deep learning model based on deep belief network, back propagation and genetic algorithm. Geoscience Frontiers, 2021, 12, 101100.	8.4	95
90	Landslide susceptibility assessment at the Wuning area, China: a comparison between multi-criteria decision making, bivariate statistical and machine learning methods. Natural Hazards, 2019, 96, 173-212.	3.4	94

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91	Novel ensembles of COPRAS multi-criteria decision-making with logistic regression, boosted regression tree, and random forest for spatial prediction of gully erosion susceptibility. Science of the Total Environment, 2019, 688, 903-916.	8.0	91
92	Shallow Landslide Prediction Using a Novel Hybrid Functional Machine Learning Algorithm. Remote Sensing, 2019, 11, 931.	4.0	90
93	New Ensemble Models for Shallow Landslide Susceptibility Modeling in a Semi-Arid Watershed. Forests, 2019, 10, 743.	2.1	89
94	Novel hybrid intelligence models for flood-susceptibility prediction: Meta optimization of the GMDH and SVR models with the genetic algorithm and harmony search. Journal of Hydrology, 2020, 590, 125423.	5.4	89
95	Flash flood susceptibility modelling using functional tree and hybrid ensemble techniques. Journal of Hydrology, 2020, 587, 125007.	5.4	88
96	Convolutional neural network approach for spatial prediction of flood hazard at national scale of Iran. Journal of Hydrology, 2020, 591, 125552.	5.4	87
97	A novel hybrid evidential belief function-based fuzzy logic model in spatial prediction of rainfall-induced shallow landslides in the Lang Son city area (Vietnam). Geomatics, Natural Hazards and Risk, 2015, 6, 243-271.	4.3	86
98	A novel hybrid artificial intelligent approach based on neural fuzzy inference model and particle swarm optimization for horizontal displacement modeling of hydropower dam. Neural Computing and Applications, 2018, 29, 1495-1506.	5.6	86
99	A Novel Ensemble Artificial Intelligence Approach for Gully Erosion Mapping in a Semi-Arid Watershed (Iran). Sensors, 2019, 19, 2444.	3.8	86
100	Enhancing Prediction Performance of Landslide Susceptibility Model Using Hybrid Machine Learning Approach of Bagging Ensemble and Logistic Model Tree. Applied Sciences (Switzerland), 2018, 8, 1046.	2.5	85
101	A Comparative Study of Kernel Logistic Regression, Radial Basis Function Classifier, Multinomial NaÃ¯ve Bayes, and Logistic Model Tree for Flash Flood Susceptibility Mapping. Water (Switzerland), 2020, 12, 239.	2.7	85
102	A Novel Integrated Approach of Relevance Vector Machine Optimized by Imperialist Competitive Algorithm for Spatial Modeling of Shallow Landslides. Remote Sensing, 2018, 10, 1538.	4.0	84
103	PMT: New analytical framework for automated evaluation of geo-environmental modelling approaches. Science of the Total Environment, 2019, 664, 296-311.	8.0	84
104	Convolutional neural network (CNN) with metaheuristic optimization algorithms for landslide susceptibility mapping in Icheon, South Korea. Journal of Environmental Management, 2022, 305, 114367.	7.8	82
105	A novel ensemble classifier of rotation forest and NaÃ¯ve Bayer for landslide susceptibility assessment at the Luc Yen district, Yen Bai Province (Viet Nam) using GIS. Geomatics, Natural Hazards and Risk, 2017, 8, 649-671.	4.3	81
106	The effect of sample size on different machine learning models for groundwater potential mapping in mountain bedrock aquifers. Catena, 2020, 187, 104421.	5.0	81
107	Social Vulnerability Assessment Using Artificial Neural Network (ANN) Model for Earthquake Hazard in Tabriz City, Iran. Sustainability, 2018, 10, 3376.	3.2	78
108	A new intelligence approach based on GIS-based Multivariate Adaptive Regression Splines and metaheuristic optimization for predicting flash flood susceptible areas at high-frequency tropical typhoon area. Journal of Hydrology, 2019, 575, 314-326.	5.4	76

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109	Spatial predicting of flood potential areas using novel hybridizations of fuzzy decision-making, bivariate statistics, and machine learning. Journal of Hydrology, 2020, 585, 124808.	5.4	75
110	The Feasibility of Three Prediction Techniques of the Artificial Neural Network, Adaptive Neuro-Fuzzy Inference System, and Hybrid Particle Swarm Optimization for Assessing the Safety Factor of Cohesive Slopes. ISPRS International Journal of Geo-Information, 2019, 8, 391.	2.9	73
111	A comparative study of sequential minimal optimization-based support vector machines, vote feature intervals, and logistic regression in landslide susceptibility assessment using GIS. Environmental Earth Sciences, 2017, 76, 1.	2.7	72
112	A tree-based intelligence ensemble approach for spatial prediction of potential groundwater. International Journal of Digital Earth, 2020, 13, 1408-1429.	3.9	70
113	Spatial Prediction of Rainfall-Induced Landslides Using Aggregating One-Dependence Estimators Classifier. Journal of the Indian Society of Remote Sensing, 2018, 46, 1457-1470.	2.4	69
114	Genetic and firefly metaheuristic algorithms for an optimized neuro-fuzzy prediction modeling of wildfire probability. Journal of Environmental Management, 2019, 243, 358-369.	7.8	69
115	Development of novel hybridized models for urban flood susceptibility mapping. Scientific Reports, 2020, 10, 12937.	3.3	68
116	Groutability estimation of grouting processes with cement grouts using Differential Flower Pollination Optimized Support Vector Machine. Applied Soft Computing Journal, 2016, 45, 173-186.	7.2	67
117	Landslide susceptibility assessment using a novel hybrid model of statistical bivariate methods (FR and) Tj ETQq1 1 0.784314 rgBT /O Environmental Earth Sciences, 2017, 76, 1.	2.7	67
118	Urban flood modeling using deep-learning approaches in Seoul, South Korea. Journal of Hydrology, 2021, 601, 126684.	5.4	65
119	A Hybrid Computational Intelligence Approach to Groundwater Spring Potential Mapping. Water (Switzerland), 2019, 11, 2013.	2.7	64
120	GIS-based spatial prediction of tropical forest fire danger using a new hybrid machine learning method. Ecological Informatics, 2018, 48, 104-116.	5.2	63
121	A comparative study of support vector machine and logistic model tree classifiers for shallow landslide susceptibility modeling. Environmental Earth Sciences, 2019, 78, 1.	2.7	60
122	Deep learning neural networks for spatially explicit prediction of flash flood probability. Geoscience Frontiers, 2021, 12, 101076.	8.4	60
123	Development of a Novel Hybrid Intelligence Approach for Landslide Spatial Prediction. Applied Sciences (Switzerland), 2019, 9, 2824.	2.5	58
124	Enhancing nitrate and strontium concentration prediction in groundwater by using new data mining algorithm. Science of the Total Environment, 2020, 715, 136836.	8.0	58
125	A Bayesian framework based on a Gaussian mixture model and radial-basis-function Fisher discriminant analysis (BayGmmKdaÂV1.1) for spatial prediction of floods. Geoscientific Model Development, 2017, 10, 3391-3409.	3.6	57
126	Seismic vulnerability assessment of school buildings in Tehran city based on AHP and GIS. Natural Hazards and Earth System Sciences, 2014, 14, 969-979.	3.6	56

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127	GIS modeling of seismic vulnerability of residential fabrics considering geotechnical, structural, social and physical distance indicators in Tehran using multi-criteria decision-making techniques. Natural Hazards and Earth System Sciences, 2015, 15, 461-474.	3.6	56
128	Adaptive Network Based Fuzzy Inference System with Meta-Heuristic Optimizations for International Roughness Index Prediction. Applied Sciences (Switzerland), 2019, 9, 4715.	2.5	55
129	Bedload transport rate prediction: Application of novel hybrid data mining techniques. Journal of Hydrology, 2020, 585, 124774.	5.4	55
130	A Novel GIS-Based Random Forest Machine Algorithm for the Spatial Prediction of Shallow Landslide Susceptibility. Forests, 2020, 11, 118.	2.1	54
131	A swarm intelligence-based machine learning approach for predicting soil shear strength for road construction: a case study at Trung Luong National Expressway Project (Vietnam). Engineering With Computers, 2019, 35, 955-965.	6.1	53
132	Flood spatial prediction modeling using a hybrid of meta-optimization and support vector regression modeling. Catena, 2021, 199, 105114.	5.0	53
133	Wildfire Probability Mapping: Bivariate vs. Multivariate Statistics. Remote Sensing, 2019, 11, 618.	4.0	52
134	A Novel Relevance Vector Machine Classifier with Cuckoo Search Optimization for Spatial Prediction of Landslides. Journal of Computing in Civil Engineering, 2016, 30, .	4.7	50
135	Evaluating the predictive power of different machine learning algorithms for groundwater salinity prediction of multi-layer coastal aquifers in the Mekong Delta, Vietnam. Ecological Indicators, 2021, 127, 107790.	6.3	49
136	Application of Probabilistic and Machine Learning Models for Groundwater Potentiality Mapping in Damghan Sedimentary Plain, Iran. Remote Sensing, 2019, 11, 3015.	4.0	46
137	New neural fuzzy-based machine learning ensemble for enhancing the prediction accuracy of flood susceptibility mapping. Hydrological Sciences Journal, 2020, 65, 2816-2837.	2.6	46
138	Spatial Modeling of Snow Avalanche Using Machine Learning Models and Geo-Environmental Factors: Comparison of Effectiveness in Two Mountain Regions. Remote Sensing, 2019, 11, 2995.	4.0	44
139	Spatial prediction of landslide susceptibility using integrated frequency ratio with entropy and support vector machines by different kernel functions. Environmental Earth Sciences, 2016, 75, 1.	2.7	43
140	SEVUCAS: A Novel GIS-Based Machine Learning Software for Seismic Vulnerability Assessment. Applied Sciences (Switzerland), 2019, 9, 3495.	2.5	42
141	Novel Credal Decision Tree-Based Ensemble Approaches for Predicting the Landslide Susceptibility. Remote Sensing, 2020, 12, 3389.	4.0	41
142	Multi-hazards vulnerability assessment of southern coasts of Iran. Journal of Environmental Management, 2019, 252, 109628.	7.8	40
143	Hybridized neural fuzzy ensembles for dust source modeling and prediction. Atmospheric Environment, 2020, 224, 117320.	4.1	39
144	Swarm intelligence optimization of the group method of data handling using the cuckoo search and whale optimization algorithms to model and predict landslides. Applied Soft Computing Journal, 2022, 116, 108254.	7.2	39

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145	Spatial prediction of shallow landslide using Bat algorithm optimized machine learning approach: A case study in Lang Son Province, Vietnam. Advanced Engineering Informatics, 2019, 42, 100978.	8.0	37
146	A Novel Intelligence Approach of a Sequential Minimal Optimization-Based Support Vector Machine for Landslide Susceptibility Mapping. Sustainability, 2019, 11, 6323.	3.2	37
147	Toward the development of deep learning analyses for snow avalanche releases in mountain regions. Geocarto International, 2022, 37, 7855-7880.	3.5	36
148	Application of the group method of data handling (GMDH) approach for landslide susceptibility zonation using readily available spatial covariates. Catena, 2022, 208, 105779.	5.0	34
149	Mapping of Post-Wildfire Burned Area Using a Hybrid Algorithm and Satellite Data: The Case of the Camp Fire Wildfire in California, USA. Remote Sensing, 2020, 12, 623.	4.0	33
150	Hybrid Computational Intelligence Models for Improvement Gully Erosion Assessment. Remote Sensing, 2020, 12, 140.	4.0	33
151	A methodological comparison of head-cut based gully erosion susceptibility models: Combined use of statistical and artificial intelligence. Geomorphology, 2020, 359, 107136.	2.6	32
152	A New Modeling Approach for Spatial Prediction of Flash Flood with Biogeography Optimized CHAID Tree Ensemble and Remote Sensing Data. Remote Sensing, 2020, 12, 1373.	4.0	32
153	Hybridizing four wise neural-metaheuristic paradigms in predicting soil shear strength. Measurement: Journal of the International Measurement Confederation, 2020, 156, 107576.	5.0	31
154	A Novel Hybrid Approach Based on Instance Based Learning Classifier and Rotation Forest Ensemble for Spatial Prediction of Rainfall-Induced Shallow Landslides using GIS. Sustainability, 2017, 9, 813.	3.2	30
155	Gully Head-Cut Distribution Modeling Using Machine Learning Methodsâ€"A Case Study of N.W. Iran. Water (Switzerland), 2020, 12, 16.	2.7	30
156	Spatial Landslide Susceptibility Assessment Based on Novel Neural-Metaheuristic Geographic Information System Based Ensembles. Sensors, 2019, 19, 4698.	3.8	29
157	A novel ensemble learning based on Bayesian Belief Network coupled with an extreme learning machine for flash flood susceptibility mapping. Engineering Applications of Artificial Intelligence, 2020, 96, 103971.	8.1	29
158	Capability and robustness of novel hybridized models used for drought hazard modeling in southeast Queensland, Australia. Science of the Total Environment, 2020, 718, 134656.	8.0	28
159	Spatial modelling of gully erosion in the Ardib River Watershed using three statistical-based techniques. Catena, 2020, 190, 104545.	5.0	28
160	Spatial prediction of rainfall-induced shallow landslides using gene expression programming integrated with GIS: a case study in Vietnam. Natural Hazards, 2018, 92, 1871-1887.	3.4	27
161	Novel Nature-Inspired Hybrids of Neural Computing for Estimating Soil Shear Strength. Applied Sciences (Switzerland), 2019, 9, 4643.	2.5	26
162	Spotted Hyena Optimizer and Ant Lion Optimization in Predicting the Shear Strength of Soil. Applied Sciences (Switzerland), 2019, 9, 4738.	2.5	26

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