Nhat-Duc Hoang

List of Articles by Year in descending order

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100 peer-reviewed articles	4,576 peer-reviewed citations	132337 36 peer-reviewed h-index	1406196 2.37 score
107 documents	5195 doc citations	140247 38 h-index	10204 citing authors

#	Article	IF	Citations
1	Geospatial urban heat mapping with interpretable machine learning and deep learning: a case study in Hue City, Vietnam. Earth Science Informatics, 2025, 18, .	2.8	27
2	From Data to Insights: Modeling Urban Land Surface Temperature Using Geospatial Analysis and Interpretable Machine Learning. Sensors, 2025, 25, 1169.	2.3	35
3	Towards sustainable construction: estimating compressive strength of waste foundry sand-blended green concrete using a hybrid machine learning approach. Discover civil engineering, 2025, 2, .	1.6	6
4	Geospatial Analysis and Machine Learning Framework for Urban Heat Island Intensity Prediction: Natural Gradient Boosting and Deep Neural Network Regressors with Multisource Remote Sensing Data. Sustainability, 2025, 17, 4287.	2.3	17
5	An interpretable machine learning framework for mapping hotspots and identifying their driving factors in urban environments during heat waves. Environmental Monitoring and Assessment, 2025, 197, .	2.2	5
6	Histogram-based gradient boosting machine with SHAP-driven interpretability for predicting intensity of urban heat Island effect. Discover civil engineering, 2025, 2, .	1.6	7
7	Predicting Compressive Strength of High-Performance Concrete Using Hybridization of Nature-Inspired Metaheuristic and Gradient Boosting Machine. Mathematics, 2024, 12, 1267.	1.3	18
8	Structural Condition Assessment of Steel Anchorage Using Convolutional Neural Networks and Admittance Response. Buildings, 2024, 14, 1635.	2.0	3
9	Enhancement of PZT-based damage detection in real-scale post-tensioned anchorage under ambient conditions. Journal of Constructional Steel Research, 2024, 220, 108841.	3.3	6
10	Leveraging a Hybrid Machine Learning Approach for Compressive Strength Estimation of Roller-Compacted Concrete with Recycled Aggregates. Mathematics, 2024, 12, 2542.	1.3	18
11	A Proof-of-Concept Study of Stability Monitoring of Implant Structure by Deep Learning of Local Vibrational Characteristics. Journal of Sensor and Actuator Networks, 2024, 13, 52.	2.7	1
12	Predicting tensile strength of steel fiber-reinforced concrete based on a novel differential evolution-optimized extreme gradient boosting machine. Neural Computing and Applications, 2024, 36, 22653-22676.	2.8	9
13	Metaheuristic optimization of extreme gradient boosting machine for enhanced prediction of lateral strength of reinforced concrete columns under cyclic loadings. Results in Engineering, 2024, 24, 103125.	5.8	18
14	Electromechanical admittance-based automatic damage assessment in plate structures via one-dimensional CNN-based deep learning models. Frontiers of Structural and Civil Engineering, 2024, 18, 1730-1751.	1.9	11
15	Comparison of histogram-based gradient boosting classification machine, random Forest, and deep convolutional neural network for pavement raveling severity classification. Automation in Construction, 2023, 148, 104767.	8.4	122
16	Image processing-based classification of pavement fatigue severity using extremely randomized trees, deep neural network, and convolutional neural network. International Journal of Pavement Engineering, 2023, 24, .	2.1	7
17	Estimation of the compressive strength of concretes containing ground granulated blast furnace slag using a novel regularized deep learning approach. Multiscale and Multidisciplinary Modeling, Experiments and Design, 2023, 6, 415-430.	1.7	14
18	Corrigendum to “The use of bioshields for coastal protection in Vietnam: Current status and potential” [Reg. Stud. Mar. Sci. 47 (2021) 101945]. Regional Studies in Marine Science, 2023, 64, 103018.	0.8	0

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19	Computer Vision-Based Severity Classification of Asphalt Pavement Raveling Using Advanced Gradient Boosting Machines and Lightweight Texture Descriptors. Iranian Journal of Science and Technology - Transactions of Civil Engineering, 2023, 47, 4059-4073.	1.1	3
20	A novel ant colony-optimized extreme gradient boosting machine for estimating compressive strength of recycled aggregate concrete. Multiscale and Multidisciplinary Modeling, Experiments and Design, 2023, 7, 375-394.	1.7	23
21	Estimating the compressive strength of roller compacted concrete using a novel swarm-optimised light gradient boosting machine. International Journal of Pavement Engineering, 2023, 24, .	2.1	11
22	Compressive strength estimation of rice husk ash-blended high-strength concrete using diffGrad-optimized deep learning approach. Multiscale and Multidisciplinary Modeling, Experiments and Design, 2023, 7, 1953-1973.	1.7	3
23	Computer vision based asphalt pavement segregation detection using image texture analysis integrated with extreme gradient boosting machine and deep convolutional neural networks. Measurement: Journal of the International Measurement Confederation, 2022, 196, 111207.	4.6	26
24	Computer vision-based classification of concrete spall severity using metaheuristic-optimized Extreme Gradient Boosting Machine and Deep Convolutional Neural Network. Automation in Construction, 2022, 140, 104371.	8.4	57
25	A novel whale optimization algorithm optimized XGBoost regression for estimating bearing capacity of concrete piles. Neural Computing and Applications, 2022, 35, 3825-3852.	2.8	70
26	Machine Learning-Based Estimation of the Compressive Strength of Self-Compacting Concrete: A Multi-Dataset Study. Mathematics, 2022, 10, 3771.	1.3	25
27	A Neural Network-Based Asphalt Pavement Crack Classification Model Using Image Processing and Random Boosted Differential Flower Pollination. International Journal of Pavement Research and Technology, 2022, 17, 563-576.	1.4	6
28	Compressive Strength Estimation of Rice Husk Ash-Blended Concrete Using Deep Neural Network Regression with an Asymmetric Loss Function. Iranian Journal of Science and Technology - Transactions of Civil Engineering, 2022, 47, 1547-1565.	1.1	16
29	Prediction of long-term deflections of reinforced-concrete members using a novel swarm optimized extreme gradient boosting machine. Engineering With Computers, 2021, 38, 1255-1267.	2.2	25
30	Prediction of gully erosion susceptibility mapping using novel ensemble machine learning algorithms. Geomatics, Natural Hazards and Risk, 2021, 12, 469-498.	2.8	101
31	A new hybrid equilibrium optimized SysFor based geospatial data mining for tropical storm-induced flash flood susceptible mapping. Journal of Environmental Management, 2021, 280, 111858.	6.3	21
32	An approach based on socio-politically optimized neural computing network for predicting shallow landslide susceptibility at tropical areas. Environmental Earth Sciences, 2021, 80, .	2.1	1
33	Success-history based adaptive differential evolution method for optimizing fuel loading pattern of VVER-1000 reactor. Nuclear Engineering and Design, 2021, 377, 111125.	1.6	11
34	Image processing-based automatic detection of asphalt pavement rutting using a novel metaheuristic optimized machine learning approach. Soft Computing, 2021, 25, 12839-12855.	1.8	47
35	The use of bioshields for coastal protection in Vietnam: Current status and potential. Regional Studies in Marine Science, 2021, 47, 101945.	0.8	32
36	Automatic recognition of concrete spall using image processing and metaheuristic optimized LogitBoost classification tree. Advances in Engineering Software, 2021, 159, 103031.	4.6	34

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37	A novel deep learning neural network approach for predicting flash flood susceptibility: A case study at a high frequency tropical storm area. Science of the Total Environment, 2020, 701, 134413.	5.6	333
38	A New Hybrid Firefly–PSO Optimized Random Subspace Tree Intelligence for Torrential Rainfall-Induced Flash Flood Susceptible Mapping. Remote Sensing, 2020, 12, 2688.	2.7	73
39	An advanced meta-learner based on artificial electric field algorithm optimized stacking ensemble techniques for enhancing prediction accuracy of soil shear strength. Engineering With Computers, 2020, 38, 2185-2207.	2.2	35
40	Machine learning based soil erosion susceptibility prediction using social spider algorithm optimized multivariate adaptive regression spline. Measurement: Journal of the International Measurement Confederation, 2020, 164, 108066.	4.6	42
41	Prediction of interface yield stress and plastic viscosity of fresh concrete using a hybrid machine learning approach. Advanced Engineering Informatics, 2020, 44, 101057.	7.3	65
42	Effectiveness assessment of Keras based deep learning with different robust optimization algorithms for shallow landslide susceptibility mapping at tropical area. Catena, 2020, 188, 104458.	4.3	142
43	A Novel GIS-Based Random Forest Machine Algorithm for the Spatial Prediction of Shallow Landslide Susceptibility. Forests, 2020, 11, 118.	1.8	84
44	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.	7.3	48
45	Estimating punching shear capacity of steel fibre reinforced concrete slabs using sequential piecewise multiple linear regression and artificial neural network. Measurement: Journal of the International Measurement Confederation, 2019, 137, 58-70.	4.6	82
46	Automatic detection of asphalt pavement raveling using image texture based feature extraction and stochastic gradient descent logistic regression. Automation in Construction, 2019, 105, 102843.	8.4	89
47	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.	5.0	99
48	Image processing based automatic recognition of asphalt pavement patch using a metaheuristic optimized machine learning approach. Advanced Engineering Informatics, 2019, 40, 110-120.	7.3	75
49	Spatial pattern analysis and prediction of forest fire using new machine learning approach of Multivariate Adaptive Regression Splines and Differential Flower Pollination optimization: A case study at Lao Cai province (Viet Nam). Journal of Environmental Management, 2019, 237, 476-487.	6.3	123
50	A New Approach of Hybrid Bee Colony Optimized Neural Computing to Estimate the Soil Compression Coefficient for a Housing Construction Project. Applied Sciences (Switzerland), 2019, 9, 4912.	1.6	21
51	A hybrid computational intelligence approach for predicting soil shear strength for urban housing construction: a case study at Vinhomes Imperia project, Hai Phong city (Vietnam). Engineering With Computers, 2019, 36, 603-616.	2.2	55
52	Predicting ultimate bond strength of corroded reinforcement and surrounding concrete using a metaheuristic optimized least squares support vector regression model. Neural Computing and Applications, 2019, 32, 7289-7309.	2.8	62
53	Advanced soft computing techniques for predicting soil compression coefficient in engineering project: a comparative study. Engineering With Computers, 2019, 36, 1405-1416.	2.2	14
54	Estimating landslide occurrence via small watershed method with relevance vector machine. Earth Science Informatics, 2019, 13, 249-260.	2.8	5

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55	A success history-based adaptive differential evolution optimized support vector regression for estimating plastic viscosity of fresh concrete. Engineering With Computers, 2019, 37, 1485-1498.	2.2	19
56	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.	2.5	34
57	A Probabilistic Safety Evaluation Framework for Multi-Hazard Assessment in a Bridge using SO-MARS Learning Model. KSCE Journal of Civil Engineering, 2018, 22, 903-915.	1.4	13
58	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.	7.3	148
59	A Novel Integrated Approach of Relevance Vector Machine Optimized by Imperialist Competitive Algorithm for Spatial Modeling of Shallow Landslides. Remote Sensing, 2018, 10, 1538.	2.7	93
60	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.	2.3	130
61	GIS-based spatial prediction of tropical forest fire danger using a new hybrid machine learning method. Ecological Informatics, 2018, 48, 104-116.	4.9	98
62	Spatial pattern assessment of tropical forest fire danger at Thuan Chau area (Vietnam) using GIS-based advanced machine learning algorithms: A comparative study. Ecological Informatics, 2018, 46, 74-85.	4.9	135
63	Estimation of scour depth at bridges with complex pier foundations using support vector regression integrated with feature selection. Journal of Civil Structural Health Monitoring, 2018, 8, 431-442.	2.7	27
64	Image Processing–Based Classification of Asphalt Pavement Cracks Using Support Vector Machine Optimized by Artificial Bee Colony. Journal of Computing in Civil Engineering, 2018, 32, .	3.8	128
65	Automatic recognition of asphalt pavement cracks using metaheuristic optimized edge detection algorithms and convolution neural network. Automation in Construction, 2018, 94, 203-213.	8.4	346
66	Predicting algal appearance on mortar surface with ensembles of adaptive neuro fuzzy models: a comparative study of ensemble strategies. International Journal of Machine Learning and Cybernetics, 2018, 10, 1687-1704.	1.6	12
67	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, 2018, 35, 955-965.	2.2	71
68	Enhancing the accuracy of rainfall-induced landslide prediction along mountain roads with a GIS-based random forest classifier. Bulletin of Engineering Geology and the Environment, 2018, 78, 2835-2849.	3.1	78
69	A novel method for asphalt pavement crack classification based on image processing and machine learning. Engineering With Computers, 2018, 35, 487-498.	2.2	184
70	Estimation of algal colonization growth on mortar surface using a hybridization of machine learning and metaheuristic optimization. Sadhana - Academy Proceedings in Engineering Sciences, 2017, 42, 929-939.	0.8	21
71	Prediction of chloride diffusion in cement mortar using Multi-Gene Genetic Programming and Multivariate Adaptive Regression Splines. Measurement: Journal of the International Measurement Confederation, 2017, 112, 141-149.	4.6	92
72	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.	2.3	36

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73	A Bayesian framework based on a Gaussian mixture model and radial-basis-function Fisher discriminant analysis (BayGmmKda V1.1) for spatial prediction of floods. Geoscientific Model Development, 2017, 10, 3391-3409.	2.3	73
74	Estimating construction duration of diaphragm wall using firefly-tuned least squares support vector machine. Neural Computing and Applications, 2017, 30, 2489-2497.	2.8	27
75	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.	3.4	135
76	Groutability estimation of grouting processes with cement grouts using Differential Flower Pollination Optimized Support Vector Machine. Applied Soft Computing Journal, 2016, 45, 173-186.	5.2	74
77	Predicting Colonization Growth of Algae on Mortar Surface with Artificial Neural Network. Journal of Computing in Civil Engineering, 2016, 30, .	3.8	37
78	Slope Collapse Prediction Using Bayesian Framework with K-Nearest Neighbor Density Estimation: Case Study in Taiwan. Journal of Computing in Civil Engineering, 2016, 30, .	3.8	44
79	A Novel Relevance Vector Machine Classifier with Cuckoo Search Optimization for Spatial Prediction of Landslides. Journal of Computing in Civil Engineering, 2016, 30, .	3.8	54
80	Punching shear capacity estimation of FRP-reinforced concrete slabs using a hybrid machine learning approach. Structure and Infrastructure Engineering, 2016, 12, 1153-1161.	2.3	111
81	Hybrid artificial intelligence approach based on metaheuristic and machine learning for slope stability assessment: A multinational data analysis. Expert Systems With Applications, 2016, 46, 60-68.	6.5	133
82	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, 2016, 14, 447-458.	4.2	243
83	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, 2016, 14, 1-17.	4.2	130
84	Predicting earthquake-induced soil liquefaction based on a hybridization of kernel Fisher discriminant analysis and a least squares support vector machine: a multi-dataset study. Bulletin of Engineering Geology and the Environment, 2016, 77, 191-204.	3.1	123
85	Typhoon-induced slope collapse assessment using a novel bee colony optimized support vector classifier. Natural Hazards, 2015, 78, 1961-1978.	2.5	42
86	A Swarm-Optimized Fuzzy Instance-based Learning approach for predicting slope collapses in mountain roads. Knowledge-Based Systems, 2015, 76, 256-263.	5.7	36
87	Evaluating Contractor Financial Status Using a Hybrid Fuzzy Instance Based Classifier: Case Study in the Construction Industry. IEEE Transactions on Engineering Management, 2015, 62, 184-192.	3.4	43
88	Groutability Estimation of Grouting Processes with Microfine Cements Using an Evolutionary Instance-Based Learning Approach. Journal of Computing in Civil Engineering, 2014, 28, .	3.8	23
89	Risk Score Inference for Bridge Maintenance Project Using Evolutionary Fuzzy Least Squares Support Vector Machine. Journal of Computing in Civil Engineering, 2014, 28, .	3.8	39
90	A novel hybrid intelligent approach for contractor default status prediction. Knowledge-Based Systems, 2014, 71, 314-321.	5.7	31

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91	A novel groutability estimation model for ground improvement projects in sandy silt soil based on Bayesian framework. Tunnelling and Underground Space Technology, 2014, 43, 453-458.	6.2	15
92	Hybrid intelligence approach based on LS-SVM and Differential Evolution for construction cost index estimation: A Taiwan case study. Automation in Construction, 2013, 35, 306-313.	8.4	73
93	A novel time-depended evolutionary fuzzy SVM inference model for estimating construction project at completion. Engineering Applications of Artificial Intelligence, 2012, 25, 744-752.	6.2	43
94	Deep Learning-Based Predictive Modeling of Urban Heat Stress Using Transformer Network, Deep Neural Network, and Convolutional Neural Network. Remote Sensing in Earth Systems Sciences, 0, 8, 1161-1184.	1.2	2
95	Machine Learning Approaches for Geospatial Modeling of Urban Land Surface Temperature: Assessing Geographical Compactness, Interpretability, and Causal Inference. Sensors, 0, 25, 5380.	2.3	9
96	Machine Learning Insight into the Cooling Intensity of Urban Blue-Green Spaces During Heatwaves. Sustainability, 0, 17, 9824.	2.3	5
97	Predicting the mechanical strength of geopolymer concrete by using ensemble learning with nature-inspired intelligence. Materials Today Communications, 0, 51, 114914.	1.5	0
98	Machine Learning Framework for Evaluating the Cooling Performance of Wetlands in a Tropical Coastal City. ISPRS International Journal of Geo-Information, 0, 15, 129.	1.8	0
99	Machine Learning-Based Geospatial Modeling of Typhoon-Induced Urban Flood Susceptibility Using Gradient Boosting Machine, Deep Neural Network, and SHAP Interpretability. Remote Sensing in Earth Systems Sciences, 0, 9, .	1.2	0
100	Beyond the riverbank: deep learning and individual conditional expectation for geospatial assessment of urban river cooling. Discover civil engineering, 0, 3, .	1.6	0