

Dr. NGUYỄN HỮU DUY



I. General information

- *Working position:* Lecturer
- *Birth year:* 1989
- *Academic degree:* Bachelor/2011/HUS-VNU, Master/2014/ Université d'Orléans, France; Doctor/2019/ Université d'Orléans, France
- *Main research fields:* Application of Geo-information technology, hydrodynamic modelling and Machine learning in (1) Land management (2) Landuse/Landcover change and its relation to local livelihood, (3) natural disasters, (4) sustainable use of natural resources (5) sustainable agricultural development, (6) mitigation to impacts of climate change-induced disasters, (7) flood vulnerability and (8) territory planning.
- *Email:* huuduy151189@gmail.com

II. Typical research projects

STT	Name of projects	Sponsor/administrator agency	Period of research	Position
1	Assessing the relationship between land use and vulnerability of the community in mountainous and coastal areas in Quang Binh province under the impact of floods.	National Foundation for Science and Technology Development – Viet Nam	2020-2022	Leader
2	Integrated Land Change Modeler (LCM) and Deep learning for future flood risk assessment: Nhat Le - Kien Giang River Watershed	Vietnam National University – Ha Noi	2022-2024	Leader
3	Developing a high-accuracy model for	Vingroup	2023-2024	Leader

	assessing the effect of urbanization and climate change on flood risk in coastal provinces in Vietnam using deep learning approaches, Land Change Modeler, and hydraulic modeling	innovation foundation - Vinif		
4	Understanding Carbon dynamics of land use change among ecosystems and people's livelihoods in the Northeast region	Ministry of Science and Technology, Viet Nam	2022-2025	Member
	Developing a high-accuracy model to predict the streamflow on the Red River (Vietnam)	Ministry of Science and Technology, Viet Nam	2022-2025	Member
	Research, assessing wetland ecological systems in coastal areas of Con Dao National Park	Ministry of Natural Resources and Environment (MONRE)	2021-2022	Member

III. Typical research papers

TT	Paper	Main author/corresponding author/collaborative author/Author (if there is only one author)	Journal/Conference (Name, Link, page...)	Year of publishing
A	<i>ISI/SCOPUS journals</i>			
1	Fine-Tuning LightGBM Using an Artificial Ecosystem-Based Optimizer for Forest Fire Analysis	Co-author	<i>Forest Science</i> , 2022;, fxac039, https://doi.org/10.1093/forsci/fxac039	2022
2	Daily streamflow forecasting by machine learning in Tra Khuc river in Vietnam	One author	<i>Science of Earth</i> , DOI: https://doi.org/10.15625/2615-9783/17914 .	2022
3	Spatial modeling of flood hazard using machine learning and GIS in Ha Tinh province, Vietnam	One author	<i>Journal of Water and Climate Change</i> , https://doi.org/10.2	2022

			166/wcc.2022.257.	
4	Flood susceptibility mapping using advanced hybrid machine learning and CyGNSS: a case study of Nghe An province, Vietnam	Main author	Acte Geographica, 70(6). https://doi.org/10.1007/s11600-022-00940-2 .	2022
5	Analysis of cropland abandonment in North Central Vietnam river watershed	Main author	Anthropocene journal 38 (ISSN 2213-3054). https://doi.org/10.1016/j.ancene.2022.100341 .	2022
6	Application of deep learning models to detect coastlines and shorelines	Co-author	Journal of Environmental Management 320. https://doi.org/10.1016/j.jenvman.2022.115732 .	2022
7	GIS-based hybrid machine learning for flood susceptibility prediction in the Nhat Le–Kien Giang watershed, Vietnam	One author	Earth Science Informatics 15(4). https://doi.org/10.1007/s12145-022-00825-4	2022
8	Daily Streamflow Forecasting Using Extreme Learning Machine and Optimization Algorithm. Case Study: Tra Khuc River in Vietnam	One author	Geographia Technica 17(2). DOI : 10.21163/GT_2022.172.13	2022
9	Flood susceptibility assessment using hybrid machine learning and remote sensing in Quang Tri province, Vietnam	One author	Transasction in GIS 26(7). https://doi.org/10.1111/tgis.12980	2022
10	The composition of time-series images and using the technique SMOTE ENN for balancing datasets in land use/cover mapping	Corresponding author	Acta Montanistica Slovaca 27(2). https://doi.org/10.46544/AMS.v27i2.05 .	2022

11	Assessment of upbasin dam impacts on streamflow at Chiang Saen gauging station during the period 1960-2020 in the context of statistical studies	Corresponding author	River Research and Applications, 38(7). https://doi.org/10.1002/rra.4011	2022
12	Evaluating the Effects of Climate and Land Use Change on the Future Flood Susceptibility in the Central Region of Vietnam by Integrating Land Change Modeler, Machine Learning Methods	Main author	Geocarto International. https://doi.org/10.1080/10106049.2022.2071477 .	2022
13	A novel hybrid approach to flood susceptibility assessment based on machine learning and land use change. Case study: a river watershed in Vietnam	Main author	Hydrological Sciences Journal. https://doi.org/10.1080/02626667.2022.2060108 .	2022
14	U-shaped deep-learning models for island ecosystem type classification, a case study in Con Dao Island of Vietnam	Co-author	One Ecosystem 7. https://doi.org/10.3897/oneeco.7.e79160 .	2022
15	Hybrid models based on deep learning neural network and optimization algorithms for the spatial prediction of tropical Forest fire susceptibility in Nghe An province, Vietnam	One author	Geocarto International, 1-21. https://doi.org/10.1080/10106049.2022.2048904 .	2022
16	Salinity intrusion prediction using remote sensing and machine learning in data-limited regions: A case study in Vietnam's Mekong Delta	Corresponding author	Geoderma Regional 27. https://doi.org/10.1016/j.geodrs.2021.e00424 .	2022
17	A novel combination of Deep Neural Network and Manta Ray Foraging Optimization for flood susceptibility mapping in Quang Ngai province, Vietnam	Main author	Geocarto International. https://doi.org/10.1080/10106049.2021.1975832 .	2021
18	Predicting Future Urban Flood Risk Using Land Change and Hydraulic Modeling in a River Watershed in the Central Province of Vietnam	Main author	Remote Sensing 13(2), 262; https://doi.org/10.3390/rs13020262	2021
19	Quadratic discriminant analysis based ensemble machine learning	Co-author	Water Resources Management 35,	2021

	models for groundwater potential modeling and mapping		4415–4433. https://doi.org/10.1007/s11269-021-02957-6 .	
20	Locally weighted learning based hybrid intelligence models for groundwater potential mapping and modeling: A case study at Gia Lai province, Vietnam.	Co-author	Geoscience Frontiers 12 (5). https://doi.org/10.1016/j.gsf.2021.101154 .	2021
21	Flood risk assessment using hybrid artificial intelligence models integrated with multi-criteria decision analysis in Quang Nam Province, Vietnam.	Corresponding author	Journal of Hydrology 592. https://doi.org/10.1016/j.jhydrol.2020.125815 .	2021
22	Impacts of urbanization and drought on rice surface change: case study Gianh River Estuary, Vietnam	Main author	Urbanism. Architecture. Constructions 12(1).	2021
23	Flood risk assessment using deep learning integrated with multi-criteria decision analysis	Co-author	Knowledge-Based Systems 219. https://doi.org/10.1016/j.knosys.2021.106899 .	2021
24	GIS-Based Ensemble Computational models for Flood Susceptibility Prediction in the Quang Binh Province, Vietnam	Co-author	Journal of Hydrology 126500. https://doi.org/10.1016/j.jhydrol.2021.126500 .	2021
25	Henry's gas solubility optimization algorithm in formulating deep neural network for landslide susceptibility assessment in mountainous areas	Co-author	Environmental Earth Sciences 80(11). https://doi.org/10.1007/s12665-021-09711-6 .	2021
26	Mapping forest fire susceptibility using spatially explicit ensemble models based on the locally weighted learning algorithm	Co-author	Ecological Informatics 63. https://doi.org/10.1016/j.ecoinf.2021.101292 .	2021
27	Ensemble machine learning models based on Reduced Error Pruning Tree for prediction of rainfall-	Co-author	International Journal of Digital	2021

	induced landslides		Earth 14(5). https://doi.org/10.1080/17538947.2020.1860145 .	
28	Improved flood susceptibility mapping using a best first decision tree integrated with ensemble learning techniques	Co-author	Geoscience Frontiers, 12 (3). https://doi.org/10.1016/j.gsf.2020.11.003	2021
29	Spatial prediction of landslides along National Highway-6, Hoa Binh province, Vietnam using novel hybrid models	Co-author	Geocarto International. https://doi.org/10.1080/10106049.2021.1912195 .	2021
30	Landslide susceptibility mapping using state-of-the-art machine learning ensembles	Co-author	Geocarto International. https://doi.org/10.1080/10106049.2021.1914746 .	2021
31	An optimal search for neural network parameters using the Salp swarm optimization algorithm: a landslide application	Main author	Remote Sensing Letters 11(4). https://doi.org/10.1080/2150704X.2020.1716409	2020
32	Verification of novel integrations of swarm intelligence algorithms into deep learning neural network for flood susceptibility mapping	Co-author	Journal of Hydrology 581. https://doi.org/10.1016/j.jhydrol.2019.124379	2020
33	Convolutional neural network - optimized moth flame algorithm for shallow landslide susceptible analysis	Co-author	IEEE Access 8. DOI: 10.1109/ACCESS.2020.2973415	2020
34	Impacts of urbanization and tourism on the erosion and accretion of european, asian and african coastal areas and possible solutions	Main author	Urbanism. Architecture. Constructions 11(2).	2020
35	Degradation of coastlines under the pressure of urbanization and tourism: evidence on the change of	Corresponding author	Land 9(8). https://doi.org/10.3	2020

	land systems from Europe, Asia and Africa		390/land9080275.	
36	Rainfall induced landslide susceptibility mapping using novel hybrid soft computing methods based on multi-layer perceptron neural network classifier	Co-author	Geocarto International. https://doi.org/10.1080/10106049.2020.1837262 .	2020
37	Shallow Landslide Susceptibility Mapping: A Comparison between Logistic Model Tree, Logistic Regression, Naïve Bayes Tree, Artificial Neural Network, and Support Vector Machine Algorithms	Co-author	International journal of environmental research and public health 17(8). https://doi.org/10.3390/ijerph17082749 .	2020
38	A comparative study of kernel logistic regression, radial basis function classifier, multinomial naïve bayes, and logistic model tree for flash flood susceptibility mapping	Co-author	Water 12(1). https://doi.org/10.3390/w12010239 .	2020
39	Groundwater potential mapping combining artificial neural network and real AdaBoost ensemble technique: the DakNong province case-study, Vietnam	Co-author	International journal of environmental research and public health 17(7). https://doi.org/10.3390/ijerph17072473 .	2020
40	GIS based novel hybrid computational intelligence models for mapping landslide susceptibility: a case study at da lat city, Vietnam	Co-author	Sustainability 11(24) (ISSN 2071-1050). https://doi.org/10.3390/su11247118 .	2019
41	A Novel Method for Multispectral Image Classification by Using Social Spider Optimization Algorithm Integrated to Fuzzy C-Mean Clustering	Co-author	Canadian Journal of Remote Sensing 45(1). https://doi.org/10.1080/07038992.2019.1610369 .	2019
42	Rice field landscapes and their	Main author	Cybergeog 876.	2018

	recent evolution in the Gianh River delta		DOI : https://doi.org/10.4000/cybergeo.29826	
B	<i>Non – ISI/SCOPUS journals</i>			
C	<i>National journals</i>			
1	Application of GNSS Reflectometry in Water Level Monitoring using Low-cost GNSS Antenna: A Case Study in Tam Giang Lagoon, Thua Thien Hue Province	Co-author	Journal of Science, Vietnam National University, 38 (4), DOI: https://doi.org/10.25073/2588-1094/vnuees.4878	2022
2	Research on the Vulnerability of the Community to Flood: A Case Study at the Downstream of Gianh River, Quang Binh Province	Co- author	Journal of Science, Vietnam National University, 37 (4), DOI: https://doi.org/10.25073/2588-1094/vnuees.4878	2021
D	<i>International conferences</i>			
1	Flood dynamics and risk management at the Gianh river Estuary: are measures able to reduce risks satisfactorily?	Main author	5th International Hybrid Conference Water resources and wetlands, 8-12 September 2021, Tulcea (Romania)	2021
2	The flood risk in the lower Gianh River: modelling and field verification	Main author	Air and Water components of the environment, Babes Bolyai University Faculty of Geography	2016
D	<i>National conferences</i>			
1	Study on the effect of land use change and rainfall on flood susceptibility in Nhat Le - Kien Giang watershed, Quang Binh province	Main author	East sea conference, Nha Trang, Khánh Hoà, Việt Nam	2022
2	Application of machine learning and Remote Sensing for the flood susceptibility mapping in Quang Nam	Main author	National Scientific Conference on Geography 2022	2022

	Application of CYGNSS data and machine learning model in soil moisture monitoring in Nghe An province	Co-Author	National Scientific Conference on Geography 2022	2022
<i>E</i>	<i>Book/Chapter</i>			