Nguyen Thi Diem Huong

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Research Interests

Medical Image Analysis: AI for X-ray, MRI, and biopsy image classification, segmentation, and tumor detection.
Predictive Modeling: Probabilistic and statistical learning for early disease detection and personalized medicine.
Deep Learning for Medical Imaging: Development of CNNs, Transformers, and hybrid AI models for X-ray, MRI, and histopathology image classification and segmentation.

Education

2015–2017 **Master's in Probability Theory and Mathematical Statistics**, Can Tho University, Vietnam
Thesis: *On the Convergence of the One-Sided Ergodic Hilbert Transform*
Graduated with Distinction

2011–2015 **Bachelor in Mathematics Teacher Education**, Can Tho University, Vietnam
Graduated as Valedictorian

Experience

2021–2025 **Lecturer, FPT University, Ho Chi Minh City**
Teach advanced courses in **Probability and Statistics, Applied Mathematics, and Mathematical Modeling**.
Supervise student research projects in **stochastic modeling, statistical inference, and time-series analysis**.

2021–2025 **Visiting Lecturer, Ho Chi Minh City**
Taught courses in Mathematics, Statistics, and Applied Quantitative Methods at:

- Ho Chi Minh City University of Law
- University of Economics and Finance (UEF), Ho Chi Minh City
- Posts and Telecommunications Institute of Technology (PTIT)

Publications

1. Tran Trong Huynh, Bui Thanh Khoa, Nguyen Thi Diem Huong, *"Predicting Stock Price Movement for the Inefficient Market: Case of Hanoi Stock Exchange (HNX)"*, IEEE, 2023.

2. Tran Trong Huynh, Bui Thanh Khoa, Nguyen Thi Diem Huong, *"Predicting Returns of the Exchange Rate from Oil Prices: Machine Learning Approach"*, IEEE, 2023.

3. Dinh Pham Toan, Nguyen Thi Diem Huong, Pham Thi Bich, *"Classifying Chest X-ray Images using Parallel Inception V3 Architecture"*, submitted 2025.

4. Dinh Pham Toan, Mai Xuan Thi Le, Nguyen Thi Diem Huong, *"A Hybrid Approach to Image Classification using Kernel-Based Fuzzy Clustering and Support Vector Machine"*, submitted 2025.

Skills

Mathematical Modeling: Stochastic Processes, Statistical Inference, Mathematical Analysis
Programming: Python, C, MATLAB, LaTeX
Research Tools: Machine Learning, Statistical Learning, Probabilistic Graphical Models

Honors & Achievements

- Valedictorian, Can Tho University (2015).
- Master's with Distinction
- Contributed as co-author to international publications in finance and medical imaging AI.