# Trieu Hai Vo

tvo013@fiu.edu · Miami, FL · trieuhaivo · vhtrieu

## Education

**Ph.D.** **Florida International University**, Computer Science – Miami, FL — May 2024 – present

- Advisors: Prof. Leonardo Bobadilla (Florida International University) and Prof. Cuong V. Nguyen (Durham University, United Kingdom)
- Research: Deep learning for environmental time series; axis-factored attention architectures; water-quality imputation and forecasting
- Passed PhD Qualifying Examination (April 2026)

**M.S.** **Northeastern University**, Artificial Intelligence – Boston, MA — Sept 2021 – July 2023

- GPA: 3.91 / 4.00
- Concentration: Artificial Intelligence
- Coursework: Artificial Intelligence, Machine Learning, Data Science, Data Mining, Big Data, Predictive Analytics, Healthcare Information Processing

**B.S.** **Vietnam National University — University of Science**, Computer Science (Advanced Program) – Ho Chi Minh City, Vietnam — Sept 2014 – Nov 2018

- GPA: 3.65 / 4.00 (Advanced Program, instruction in English)
- Honors thesis: "Brain Tumor Segmentation in MRI Images Using Convolutional Neural Networks" — advised by Dr. Tien B. Dinh (Dean of the Faculty of Information Technology, VNU-HCMUS)
- Rector's Merit Award and Medal for outstanding academic achievement (2018)

## Publications

**Depth-wise Multivariate Imputation for Environmental Time Series** — 2026
Trieu H. Vo, Cuong V. Nguyen, Ana Sophia Cavalcanti, Leonardo Bobadilla
ACM SIGKDD 2026 (under peer review)

**Lake Water Temperature Modeling Using Physics-Informed Neural Networks** — 2025
Trieu H. Vo, Cuong V. Nguyen, Dongsheng Luo, Leonardo Bobadilla
ICLR 2025 Workshop on Tackling Climate Change with Machine Learning, Singapore

## Talks and Presentations

- "**Learning and Planning for Water Quality Monitoring**" — co-presented with Prof. Leonardo Bobadilla at the *FIU AI/ML and Modeling Collaboration Meeting* (June 19–20, 2024, FIU International Center for Tropical Botany, Coconut Grove, FL), hosted under the NSF AI2ES ExpandAI partnership with external partners including the South Florida Water Management District (SFWMD) and Texas A&M–Corpus Christi.
- **Poster:** "**Lake Water Temperature Modeling Using Physics-Informed Neural Networks**" — peer-reviewed poster presentation at the *ICLR 2025 Workshop on Tackling Climate Change with Machine Learning* (April 28, 2025, Singapore).

## Experience

**PhD Research Assistant**, Florida International University – Miami, FL — May 2024 – present

- The NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES) funds my doctoral research via the FIU–AI2ES ExpandAI partnership
- Developing Depth-wise Multivariate Imputation (DMI) — a deep-learning architecture with axis-factored attention for imputing missing measurements across multi-depth environmental sensor networks (see Publications)
- Designed and implemented a physics-informed neural network combining Koopman operator theory with LSTM recurrent networks for long-horizon lake water-temperature forecasting; published at ICLR 2025 Workshop on Tackling Climate Change with Machine Learning

- Conducting empirical studies on real-world water-quality datasets, including the LakeBeD-US benchmark and a newly collected multi-depth dataset from Miami, FL

**AI Engineer**, Breathing.ai – New York, NY (Remote) June 2023 – Feb 2024

- Engineered webcam-based heart-rate and stress detection using remote photoplethysmography (rPPG), integrating MTTS-CAN, CHROM, and POS signal-processing methods
- Deployed a real-time contact-free physiological-sensing pipeline on Amazon Web Services, distributed as a Chrome extension for continuous wellbeing monitoring

**AI Intern**, Breathing.ai – Boston, MA (Remote) Sept 2022 – Dec 2022

- Developed machine-learning models (XGBoost, Random Forest, Convolutional Neural Networks) to predict physiological state from wearable-device and facial-video data
- Achieved 95% accuracy on real-time drowsiness detection using a CNN-based vision model

**Private Tutor**, Self-employed – Ho Chi Minh City, Vietnam Jan 2019 – Aug 2021

- Private tutoring during the COVID-19 period while preparing for U.S. graduate study; ranked first in the VietAI Machine Learning Foundation Course (June 2019) and earned IELTS Academic 7.5 (January 2021).

**AI Intern**, KMS Technology, Inc. – Ho Chi Minh City, Vietnam Oct 2017 – May 2018

- Built a production Résumé Parsing System for enterprise hiring, combining NLP classification with named-entity extraction (title-recognition F1 = 0.92; paragraph-classification F1 = 0.99)

## Awards

**VietAI Machine Learning Foundation Course — Top Student (full tuition refund)** Jun 2019

Ranked first in a selective nationwide cohort of the **VietAI (Vietnam AI Initiative)** Machine Learning Foundation Course and received a full tuition refund for top-student standing.

**Rector's Merit Award and Medal** Nov 2018

The Rector of **Vietnam National University — University of Science (VNU-HCMUS)** conferred this top academic honor for outstanding achievement across the Computer Science (Advanced Program) undergraduate curriculum.

**Academic Merit Scholarships — 4-year continuous recipient** 2014

Merit-based academic scholarships awarded each semester by **Vietnam National University — University of Science** for sustained academic excellence in the Advanced Program (2014–2018).

## Skills

**Primary tools:** Python, PyTorch, LaTeX, Git

**Methods:** Deep learning, time-series modelling, structured attention, physics-informed neural networks, diffusion models, Koopman operator methods

**Domains:** Environmental AI, water-quality monitoring, medical and physiological sensing

## Certificates

**Mathematics for Machine Learning & Data Science:** DeepLearning.AI — Calculus + Linear Algebra (February 2024)

**Understanding Research Methods:** University of London (April 2024)

**Algorithms — Elementary + Intermediate:** Big-O Coding (selective Vietnamese coding program; August + November 2023)

**Python — Skill Assessment:** HackerRank (April 2021)

**IELTS Academic 7.5:** IDP Education (January 2021)

## Languages

**Vietnamese:** Native speaker

**English:** Fluent (see IELTS certificate above)