

Le Nhut Nam

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“Complete disorder is impossible.”
— Theodore S. Motzkin, Israeli-American mathematician,
1908–1970

Research Interests

Graph Analytics, Mathematical Programming, Machine Learning

Education

University of Science, VNU Ho Chi Minh City **Dec 2023 – Present**
Master of Science in Mathematics, GPA: 3.27/4.00 *Advisor: Assoc. Prof. Dr. Vo Si Trong Long*
Major: Applied Mathematics (Optimization)
Coursework: Convex Analysis, Non-linear Programming, Multi-Objectives Programming, Optimization Algorithms, Mathematical Modelling in Economics, Stochastic Processes, Statistical Modelling, Differential Equations, Partial Differential Equations, Numerical Analysis

University of Science, VNU Ho Chi Minh City **Dec 2022 – Dec 2024**
Master of Science in Computer Science, GPA: 3.72/4.00 *Advisor: Prof. Dr. Le Hoai Bac*
Major: Computer Science (Data Mining)
Coursework: Data Mining, Machine Learning, Deep Learning, Computer Vision, Digital Image Processing, Mathematical methods for Computer Science, Mathematical methods for AI, Data Analysis

University of Science, VNU Ho Chi Minh City **Sep 2018 – Sep 2022**
Bachelor of Science in Computer Science, GPA: 3.46/4.00 *Advisor: Dr. Le Ngoc Thanh*
Major: Computer Science (Data Mining)
Coursework: Machine Learning, Deep Learning, Computer Vision, Digital Image Processing, Graph Mining

Hoang Le Kha High School For The Gifted **Jun 2015 – Jun 2018**
High School Diploma (Good)

Experience

Oct 2024 – Present: Teaching Assistant *Faculty of Information Technology, VNU-HCM University of Science*
Laboratory instruction and teaching assistance for undergraduate Computer Science courses including Data Visualization, Introduction to AI, and Graph Mining. Providing weekly academic support to undergraduate students.

Oct 2024 – Apr 2025: Teaching Assistant *CODERSCHOOL LTD, Ho Chi Minh City*
Teaching assistance for Data Science and AI courses. Supporting learners with final project development and implementation.

Sep 2022 – Sep 2024: Visiting Lecturer *Faculty of Information Technology, VNU-HCM University of Science*
Laboratory instruction for multiple undergraduate courses: Introduction to Machine Learning, Introduction to AI, Introduction to Programming, Introduction to Big Data, Parallel Programming, Graph Mining, Data Mining and Applications, and Applied Data Science. Developed practice exercises using Julia for neural networks and support vector machines. Mentored undergraduate thesis students for 2019AY, 2020AY, and 2021AY.

Mar 2023 – Dec 2023: AI Developer *DIGIME PTE. LTD, Ho Chi Minh City*
Developed ML models for data preprocessing and model construction. Specialized in object detection for GoPro device video data using YOLO models. Maintained workflows on Linux server environments.

Publications

International Journal

- Knowledge graph embedding by relational rotation and complex convolution for link prediction (ISI Q1, IF: 8.6).
T. Le, N. Le and B. Le, Expert Systems with Applications, 2023, 214, 119122.

International Conferences

- From Visual Explanations to Counterfactual Explanations with Latent Diffusion (CORE Rank A).
T. Luu, N. Le, D. Le and B. Le, 2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025, pp. 420–429.
- Improving Temporal Knowledge Graph Forecasting via Multi-rewards Mechanism and Confidence-Guided Tensor Decomposition Reinforcement Learning (CORE Rank B).
N. Le, T. Le and B. Le, 17th International Conference on Agents and Artificial Intelligence, 2025.
- Improving Temporal Knowledge Graph Completion via Tensor Decomposition with Relation-Time Context and Multi-time Perspective (CORE Rank B).
N. Le, T. Le and B. Le, 17th International Conference on Agents and Artificial Intelligence, 2025.
- Embedding Model with Attention over Convolution Kernels and Dynamic Mapping Matrix for Link Prediction (CORE Rank B).
T. Le, N. Le and B. Le, Asian Conference on Intelligent Information and Database Systems, 2022, pp. 234–246.

Selected Projects

Layer-wise Relevance Propagation Study in PyTorch PyTorch Optimization XAI

Novel relevance propagation filter for identifying input features relevant to classification decisions. Implements both standard and mixed precision training strategies for enhanced performance.

Graph Partitioning Algorithms Implementation Python NumPy Graph Theory

Comprehensive implementation of graph partitioning algorithms including BFS, Kernighan-Lin, Fiduccia-Mattheyses, Spectral Bisection, Recursive Bisection, Graph Coloring, and K-medoids.

Advanced Graph Representation in Python Python NumPy Data Structures

Implementation of graph representation techniques using Binary Decision Diagrams for large-scale graph processing and analysis.

Technical Skills

Languages: Python, C/C++, R, Julia, Java

ML/DS Libraries: NumPy, Pandas, Seaborn, Scikit-Learn, PyTorch, TensorFlow

Tools & Platforms: Conda, CUDA, Docker, Jupyter, Git, \LaTeX

Operating Systems: Arch Linux, Manjaro, Ubuntu, CentOS

Languages: English (Intermediate), Vietnamese (Native), Russian (Beginner)