Le Nhut Nam

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

Research Interested

Graph Analytics, Mathematical Programming, Convex Analysis

Education

Graduated

University of Science, Viet Nam National University **12/2023 – present**
Master of Science in Mathematics., GPA: 3.27/4.00 *Advisor: Assoc. Prof. Vo Si Trong Long*
Major in Applied Mathematics (Optimization)
Relevant Coursework: Stochastic Process, Non-linear Programming, Convex Analysis.

University of Science, Viet Nam National University **12/2022 – 12/2024**
Master of Science in Computer Science, GPA: 3.54/4.00 *Advisor: Prof. Le Hoai Bac*
Major in Computer Science (Data Mining)
Relevant Coursework: Mathematical methods for AI, Machine Learning, Deep Learning, Computer Vision.

Undergraduate

University of Science, Viet Nam National University **09/2018 – 09/2022**
Bachelor of Science in Computer Science., GPA: 3.46/4.00 *Advisor: Dr. Le Ngoc Thanh*
Major in Computer Science (Data Mining)
Relevant Coursework: Machine Learning, Digital Image Processing, Computer Vision, Data Visualization.

High school

Hoang Le Kha High School For The Gifted, Vietnam. **06/2015-06/2018**
Graduated: good highschool diploma

Experience

Teaching Assistant: Faculty of Information, VNU-HCM University of Science *10/2024 – Present*

- Assisted with laboratory instruction and teaching assistant for various undergraduate courses in the Computer Science program, including Data Visualization, Introduction to AI, Graph Mining.
- Offered weekly support to undergraduate Computer Science students.

Teaching Assistant: CODERSCHOOL. LTD, Ho Chi Minh City *10/2024 – 04/2025*

- Assisted with laboratory instruction and teaching assistant for Data Science, AI course.
- Offered weekly support to learners who enroll final projects.

Visiting Lecturer: Faculty of Information, VNU-HCM University of Science *09/2022 – 09/2024*

- Assisted with laboratory instruction for various undergraduate courses in the Computer Science program, including 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.
- Contributed to the development of practice exercises for courses such as Data Structures and Algorithms, and Introduction to Machine Learning, primarily using Julia for topics including neural networks and support vector machines.
- Offered weekly support to undergraduate Computer Science students.
- Mentoring for undergraduate thesis for 2019AY, 2020AY, and 2021AY.

AI Developer: DIGIME PTE. LTD, Ho Chi Minh City *03/2023 - 12/2023*

- Developed and contributed to company projects in stages of data pre-processing and ML model construction.
- Specialized in researching and solving object detection challenges for digital video data from GoPro devices.
- Operated and maintained workflows on a Linux server environment.
- Utilized YOLO models, integrating them into the project to enhance problem-solving capabilities.

Related projects

A study about Layer-wise Relevance Propagation in PyTorch Pytorch Optimization XAI
- Introduces a novel relevance propagation filter to identify input features relevant to the network's classification decision, trained from scratch.
- Offers two network training strategies: standard training and mixed precision training for faster performance.

Python Implementation of Graph partitioning algorithms Python Numpy Graph Structure
- Examines the graph partition problem.
- Implements various algorithms for solving graph partitioning, including Breadth-First Search (BFS), Kernighan-Lin (KL) algorithm, Fiduccia-Mattheyses (FM) algorithm, Spectral Bisection, Recursive Bisection, Graph Coloring, and K-medoids algorithm.

Graph representation using Python Python Numpy Graph Structure
- Studies and implements graph representation techniques in Python.
- Applies Binary Decision Diagrams for large-scale graph representation.

Skills

Technical
- Programming languages: Python, C/C++, R, Julia, Java (Listed by usage frequency)
- Python libraries for Data Science: Numpy, Pandas, Seaborn, Scikit-Learn
- Machine Learning Frameworks: Pytorch, Tensorflow (Listed by usage frequency)
- Tool chains: Conda, CUDA, Docker, Jupyter, Git, LaTeX
- OS: Arch, Manjaro, Ubuntu, CentOS (Linux-distributions, listed by usage frequency)

Language
- English - Intermediate level

Publications and preprints

International Journals

- 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 (Rank A, CORE2023).

  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 (Rank B, CORE2023).

  T. Le, N. Le and B. Le, Asian Conference on Intelligent Information and Database Systems, 2022, pp. 234–246.

- Improving Temporal Knowledge Graph Completion via Tensor Decomposition with Relation-Time Context and Multi-time Perspective (Rank B, CORE2023).

  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 (Rank B, CORE2021).

  N. Le, T. Le and B. Le, 17th International Conference on Agents and Artificial Intelligence, 2025.