Nam Le (Lê Nhựt Nam)

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Education

VNU-HCM University of Science 2023/12 - 2025/12 (Expected)
Master of Science, Applied Mathematics, GPA 8.00/10.0 Ho Chi Minh City, Vietnam

- **Research Interests**: Mathematical Programming, Numerical Methods (Interpolation, Finite Difference Method), Optimization Algorithms, Convex Analysis.
- **A point within courses**: Stochastic Process, Non-linear Programming, Convex Analysis, Numerical Programming for Applied Mathematical Problems

VNU-HCM University of Science 2022/12 - 2024/12 (Expected)
Master of Science, Computer Science, GPA 8.84/10.0 Ho Chi Minh City, Vietnam

- **Research Interests**: Machine Learning, Graph Mining, Optimization
- **Research topic**: *Temporal Knowledge Graphs Reasoning based on Reinforcement Learning*, advisor: **Prof. Dr.** Le Hoai Bac
- **Laboratory Teaching**:
  - Semester 1 2022-2023 School Year: *Introduction to Information Technology, Introduction to Programming 1, Introduction to Data Science, Programming for Data Science, Parallel Programming*.
  - Semester 2 2022-2023 School Year: *Introduction to Machine Learning, Data Visualization, Introduction to Bigdata*.
  - Semester 3 2022-2023 School Year: *Graph Mining*.
  - Semester 1 2023-2024 School Year: *Data structures and Algorithms, Introduction to Machine Learning, Parallel Programming, Graph Mining*.
  - Semester 2 2023-2024 School Year: *Introduction to Machine Learning, Data Visualization, Data mining & its applications, Introduction to AI, Applied Data Science, Data hiding & secret sharing*.
  - Semester 3 2023-2024 School Year: *Graph Mining*.
- **A point within courses**: *Advanced Machine Learning, Mathematical methods for Computer Science and Algorithms, Applied Machine Learning, Deep Learning, Research scientific methods, Advanced Mathematical Methods for AI, Data Analysis Intelligent*.

VNU-HCM University of Science 2018/09 - 2022/09
Bachelor of Science, Computer Science Ho Chi Minh City, Vietnam

- **GPA**: 8.32/10.0
- **A point within Mathematics courses**: *Multivariable Calculus, Linear Algebra, Applied Mathematics and Statistics*.
- **A point within Informatics courses**: *Object-Oriented Programming*.
- **A point within Computer Science courses**: *Introduction to AI, Introduction to Machine Learning, Pattern Recognition, Introduction to Natural Language Proccessing, Web Science, Introduction to Deep Learning, Data Visualization*.
- **Research topics**: *Knowledge Graph Completion based on Convolutional Neural Networks* (collaborator: Phan Anh Hao), advisor: **MS.c** Le Ngoc Thanh.
- **Thesis Title**: *Knowledge Graph Completion based on Convolutional Neural Networks* (10.0/10.0)

Hoang Le Kha High School For The Gifted, Vietnam 2015/09 - 2018/09
Highschool diploma - No special Tay Ninh City, Vietnam

- **Graduated**: Good.

Personal Projects

p2pc/ai4code-optimization-techniques 2021/06 - 2022/07

- We study the problem of understanding natural language and source code in Python notebooks.
- We focus on researching optimization techniques for training and inferring model results.
- We combine techniques: gradient accumulation, automatic mixed precision training, 8-bit Optimizers, and fast tokenizer. The results show significant improvement with training time 3-4 times faster than pure training. Furthermore, based on experimental results, the results achieved on the metrics do not have too much difference compared to the base model.

stmrdus/QuatRDE 2021/06 - 2022/07

- We study the Quaternion hypercomplex space for knowledge graph embedding representation.
- Proposing a model combining displacement and relational dependence.
- Experiment and evaluate results.

stmrdus/ComplExInteraction 2021/06 - 2022/07
- We study the Complex space for knowledge graph embedding representation.
- Proposing a model combining convolutional neural networks to enhance the interaction between entity embedding and relationships.
- Experiment and evaluate results.

stmrdus/NeuPLowFER 2021/06 - 2022/07
- We study several low-rank matrix decomposition methods for knowledge graph embedding representation.
- We study the impact of nonlinear transformations on low-rank matrix decomposition methods for knowledge graph embedding representation.
- Experiment and evaluate results.

stmrdus/UCompGCN 2021/06 - 2022/07
- We study several methods using graph neural networks to represent knowledge graph embeddings.
- We research on applying UNet shape to learn knowledge graph embedding representation.
- Experiment and evaluate results.

Working Experience

Faculty of Information Technology, VNU-HCM University of Science 2022/09 - Present
Visiting Lecturer Department of Computer Science
- Participate in compiling, marking examinations and organizing seminars for computer science majors at undergraduated level.
- Participate in practical instruction for computer science majors at undergraduated level.

Knowledge graph research team, advisor by MS.c Le Ngoc Thanh 2022/09 - Present
Graduated research student Department of Computer Science, Faculty of Information Technology, VNU-HCM University of Science
- Research to complete and reason on static and dynamic knowledge graphs, focusing on researching representation spaces for embedding knowledge graphs (complex space).
- Research machine learning/deep learning techniques to enhance knowledge graph embedding, focusing on research on inference methods based on reinforcement learning, rule mining and tensor decomposition.
- Participate in building scientific research projects.
- Support students in groups.

Knowledge graph research team, advisor by MS.c Le Ngoc Thanh 2021/06 - 2022/07
Undergraduated research student Department of Computer Science, Faculty of Information Technology, VNU-HCM University of Science
- Nghiên cứu các không gian biểu diễn cho nhúng đồ thị tri thức, tập trung không gian phức.
- Research machine learning/deep learning techniques to enhance knowledge graph embedding.
- Participate in building scientific research projects.

DIGIME PTE. LTD 2023/03 - 2023/11
(Internship) AI Developer Ho Chi Minh City, Vietnam
- Working on digital image-video processing, object detection tasks with YOLO models.

Publications

Journals

[1] Le, Thanh, **Nam Le**, and Bac Le. "*Knowledge graph embedding by relational rotation and complex convolution for link prediction.*" Expert Systems with Applications 214 (2023): 119122. (ISI, Q1, IF: 8.6 2023)

Conferences

[1] Le, Thanh, **Nam Le**, and Bac Le. "*Embedding Model with Attention over Convolution Kernels and Dynamic Mapping Matrix for Link Prediction.*" In Asian Conference on Intelligent Information and Database Systems, pp. 234-246. Springer, Cham, 2022. (Rank B, CORERANK 2021)

Technical skills

- **Programming Experience**: Python, C/C++, Julia, Java, CUDA, R on Arch Linux Distribution
- **Machine learning framework**: Pytorch, Pytorch Geometric, Tensorflow
- **Tool chains**: Git, LaTeX, Conda, Docker, Jupyter

Scientific activities

Mini-course: High-dimensional Statistics 07/22/2024 - 07/26/2024
Student participant Vietnam Institute for Advanced Study in Mathematics, and HCMUS

Mini-course: Introduction to Random Matrices 07/08/2024 - 07/12/2024
Student participant Vietnam Institute for Advanced Study in Mathematics, and HCMUS

Winter school: Game theory & Combinatorial optimization 07/08/2023 - 07/12/2023
Student participant Vietnam Institute for Advanced Study in Mathematics, and HCMUS

Modern Machine Learning: Foundations and Applications 09/11/2023 - 09/15/2023
Student participant Hanoi University of Science and Technology, VINBIGDATA, and NAVER

10th Vietnam Mathematical Congression 2023 08/08/2023 - 08/12/2023
Student participant Danang University of Education

Miscellanea

- Vietnamese: Native speaker
- English: Intermediate level (5.5 Overall IELTS); written in English, publications and presentations are in English.

Last Updated on July 19, 2024