

RESEARCH INTERESTS

Passionate about Machine Learning and its application in general, data-efficient and robust machine learning methods in specific. Currently focused on deep generative models (VAEs, GANs) for sequential data integrating physics information from epidemiology problems. Previous experience includes Active Learning techniques, Bayesian Neural Networks, and Distributionally Robust Optimization.

ACADEMIC BACKGROUND

The University of Iowa

Ph.D. in Computer Science - Advised by Dr. Bijaya Adhikari
Expected graduation: May, 2027

Iowa City, USA
Aug. 2022 – Present

Hanoi University of Science and Technology (HUST)

B.Sc. in Information Systems
Excellence degree (5-year program), GPA 3.63/4.0

Hanoi, Vietnam
Aug. 2014 – Mar. 2019

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, and C/C++

Relevant Frameworks: Pandas, Scikit-Learn, PyTorch, Matplotlib

Web-based: HTML/CSS/JS, NodeJS, ReactJS

Databases: MySQL, MongoDB, Aerospike

RESEARCH WORKS

Implicit Neural Network for Dynamic Graphs

*Yongjian Zhong, **Hieu Vu**, Tianbao Yang, Bijaya Adhikari*

Ongoing submission, 2023

Distributionally Robust Fair Principal Components via Geodesic Descents

***Hieu Vu**, Toan Tran, Man-Chung Yue, Viet Anh Nguyen*

ICLR, 2022

Bayesian Metric Learning for Robust Training of Deep Models under Noisy Labels

***Hieu Vu**, Toan Tran, Gustavo Carneiro*

preprint, 2020

MAP Estimation With Bernoulli Randomness, and Its Application to Text Analysis and Recommender Systems

*Xuan Bui, **Hieu Vu**, Oanh Nguyen, Khoat Than*

IEEE Access, 2020

RESEARCH EXPERIENCES

VinAI Research

Research Resident - Advised by Dr. Toan Tran and Dr. Viet Anh Nguyen

Hanoi, Vietnam
Nov. 2019 – Jan. 2022

- Main research topics: Bayesian Neural Networks, Active Learning, Distributionally Robust Optimization. Gained background: Linear Algebra, Probability & Statistics, Deep Generative Models, Robust Optimization
- Achievement: be the first author in a publication at ICLR 2022

Data Science Lab, HUST

Undergraduate Research Assistant - Advised by Dr. Khoat Than

Hanoi, Vietnam
Jun. 2017 – Jun. 2019

- Main research topics: Topic models, Hierarchical models. Gained backgrounds: Linear Algebra, Probability & Statistics, Topic modeling methods
- Achievement: be the second author in a publication at IEEE Access 2020

INDUSTRIAL EXPERIENCES

VinAI Research

AI Engineer

Hanoi, Vietnam

Jan. 2022 – June. 2022

- Develop models and apply Active Learning techniques for 2D object detection tasks using YOLOv5
- Finetune a pre-trained model for a LIDAR-based 3D object detection project on internal datasets, which gained 460% improvement
- Do clustering analysis on internal datasets for similarity search and outlier detection using traditional clustering methods such as KMeans, Gaussian mixture, Hierarchical clustering, and DBSCAN

VC Corporation

Software developer

Hanoi, Vietnam

Jan. 2018 – Aug. 2019

- Build a recommendation system for news articles using a Doc2Vec model, text mining techniques
- Build micro-service web server
- Frameworks: Flask, Java-Jersey, Jetty framework, MySQL, Aerospike, Kafka

ACADEMIC SERVICE

International workshop on Epidemiology meets Data Mining and Knowledge discovery (epiDAMIK Workshop @ KDD 2023)

Program Committee member and reviewer

AWARDS AND CERTIFICATES

Excellence scholarship for the academic year of 2018 – 2019

Granted for top 1% students with highest CPA of School of Information and Communication Technology, HUST

REFERENCES

Dr. Bijaya Adhikari

The University of Iowa

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Dr. Toan Tran

VinAI Research, Hanoi, Vietnam

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Dr. Viet Anh Nguyen

Chinese University of Hong Kong

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Dr. Khoat Than

Hanoi University of Science and Technology

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