Hieu Vu

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RESEARCH INTERESTS

I'm interested in Machine Learning and its application in general, data-efficient and robust machine learning methods in specific. Currently, I mainly focus on deep generative models (VAEs, GANs) for sequential data with physics information from epidemiology problems. Previously, I worked on different ML topics such as Active Learning techniques, Bayesian Neural Networks, and Distributionally Robust Optimization.

ACADEMIC BACKGROUND

The University of Iowa — Iowa City, USA
Ph.D. in Computer Science - Advised by Dr. Bijaya Adhikari — *Aug.* 2022 – *Present*
Expected graduation: May, 2027

Hanoi University of Science and Technology (HUST) — Hanoi, Vietnam
B.Sc. in Information Systems — *Aug.* 2014 – *Mar.* 2019
Excellence degree (5-year program), GPA 3.63/4.0

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, and C/C++
Web-based: HTML/CSS/JS, NodeJS, ReactJS
Databases: MySQL, MongoDB, Aerospike

RESEARCH WORKS

Epi-VAEGAN: On extremely limited epidemiological data augmentation
**Hieu Vu, Bijaya Adhikari*
Ongoing submission, 2023

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 — Hanoi, Vietnam
Research Resident — *Nov. 2019 – Present*

- Advised by: Dr. Toan Tran, Dr. Viet Anh Nguyen
- Main research topics: Bayesian Neural Networks, Active Learning, Distributionally Robust Optimization
- Gained Backgrounds: Linear Algebra, Probability & Statistics, Deep Generative Models, Robust Optimization

Data Science Lab, HUST — Hanoi, Vietnam
Undergraduate Research Assistant — *Jun. 2017 – Jun. 2019*

- Advised by: Dr. Khoat Than
- Main research topics: Topic models, Hierarchical models
- Gained backgrounds: Linear Algebra, Probability & Statistics, Topic modeling methods

INDUSTRIAL EXPERIENCES

VinAI Research — Hanoi, Vietnam
AI Engineer — *Jan. 2022 – June. 2022*

- Develop models and apply Active Learning techniques for 2D & 3D object detection tasks, frameworks: MMDetection3d, YOLOv5
- Clustering analysis: KMeans, Gaussian mixture, Hierarchical clustering, DBSCAN, ...

VC Corporation — Hanoi, Vietnam
Software developer — *Jun. 2018 – Aug. 2019*

- Text mining, recommendation system for news articles using ML models
- Build micro-service web server
- Frameworks: Flask, Java-Jersey, Jetty framework, MySQL, Aerospike, Kafka

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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VinAI Research, Hanoi, Vietnam
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Chinese University of Hong Kong
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