Hieu Vu

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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 — 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

ACADEMIC SERVICE

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

RESEARCH EXPERIENCES

VinAI Research Hanoi, Vietnam
Research Resident *Nov. 2019 – Jan. 2022*

- 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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Dr. Toan Tran
VinAI Research, Hanoi, Vietnam
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Dr. Viet Anh Nguyen
Chinese University of Hong Kong
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