Hieu Vu

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RESEARCH INTERESTS

Time-series analysis (RNNs, NeuralODEs, Transformer); Static/Temporal graph representation learning (GCNs, TGNs); Deep generative models for graph/time-series data (VAEs, GANs, Deep Diffusion models).

RESEARCH WORKS

- Yongjian Zhong, Liao Zhu, **Hieu Vu**, and Bijaya Adhikari, "Implicit Subgraph Neural Network", ICML, 2025
- Akash Choudhuri, **Hieu Vu**, Kishlay Jha, and Bijaya Adhikari, "Domain Knowledge Augmented Contrastive Learning on Dynamic Hypergraphs for Improved Health Risk Prediction.", SDM, 2025.
- Yongjian Zhong, **Hieu Vu**, Tianbao Yang, and Bijaya Adhikari, "Efficient and Effective Implicit Dynamic Graph Neural Network.", KDD, 2024.
- **Hieu Vu**, Toan Tran, Man-Chung Yue, and Viet Anh Nguyen, "Distributionally robust fair principal components via geodesic descents.", ICLR, 2022.
- **Hieu Vu**, Toan Tran, and Gustavo Carneiro, "Bayesian Metric Learning for Robust Training of Deep Models under Noisy Labels.", preprint, 2020
- Xuan Bui, **Hieu Vu**, Oanh Nguyen and Khoat Than, "MAP Estimation With Bernoulli Randomness, and Its Application to Text Analysis and Recommender Systems.", IEEE Access, 2020.

ACADEMIC BACKGROUND

- **Ph.D. in Computer Science** Aug. 2022 – May, 2027 (Expected)
  University of Iowa - Advised by Prof. Bijaya Adhikari *Iowa City, USA*
- **B.Sc. in Information Systems** Aug. 2014 – Mar. 2019
  Hanoi University of Science and Technology (HUST) - Excellence degree, GPA 3.63/4.0 *Hanoi, Vietnam*

RESEARCH EXPERIENCES

- **Research Assistant** Aug. 2022 - Present
  Computational Epidemiology Research Group - Advised by Prof. Bijaya Adhikari *Iowa City, USA*
  - Hospital mobility graph generation/Deep generative model for temporal graph (*project leader*)
  - Physics-regularized Deep Generative Model for epidemic time-series data (*project leader*)
  - Cystic Fibrosis Detection (*project member*)
- **Research Resident** Nov. 2019 – Jan. 2022
  VinAI Research - Advised by Dr. Toan Tran and Dr. Viet Anh Nguyen *Hanoi, Vietnam*
  - Main research topics: Bayesian Neural Networks, Active Learning, Distributionally Robust Optimization
  - Achievement: be the first author in a publication at ICLR, 2022
- **Undergraduate Research Assistant** Jun. 2017 – Jun. 2019
  Data Science Lab, HUST - Advised by Dr. Khoat Than *Hanoi, Vietnam*
  - Main research topics: Topic models, Hierarchical graphical models. Relevant background: Relevant backgrounds: Linear Algebra, Probability & Statistics
  - Achievement: be the second author in a publication at IEEE Access 2020

INDUSTRIAL EXPERIENCES

- **AI Engineer** Jan. 2022 – June. 2022
  VinAI Research *Hanoi, Vietnam*
  - Apply Active Learning techniques for 2D object detection tasks using YOLOv5
  - Finetune a pre-trained model for LIDAR-based 3D object detection on internal datasets gaining $\sim 460\%$ improvement
  - Do clustering analysis on internal datasets for similarity search and outlier detection with clustering methods such as KMeans, Gaussian mixture, Hierarchical clustering, and DBSCAN
- **Software developer** Jun. 2018 – Aug. 2019
  VC Corporation *Hanoi, Vietnam*
  - Build a recommendation system for news articles using a Doc2Vec model, deploy with Flash
  - Build micro-service Restful web server with Java-Jersey framework
  - Build a cache server with Aerospike delivering data from MySQL database

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

ACADEMIC SERVICE & AWARDS

- Reviewer/Subreviewer: epiDAMIK Workshop @ KDD 2023 (program committee member), SDM 2023, KDD 2024, CIKM 2024
- Excellence scholarship for the academic year of 2018-2019 - Granted for top 1% highest CPA students of HUST