# Hieu Vu

Iowa City, IA, 52246   –   (+1) 319-936-7863

✉ hieuvu@uiowa.edu    🏠 hieuvt29.github.io    💼 hieuvt29    🎓 Google Scholar

## 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).

## PUBLICATIONS

- **Hieu Vu**, Alberto M Segre, and Bijaya Adhikari, *"TempoBiGen: A Curated Generative Model for Healthcare Mobility Logs with Visit Duration"*, **ECMLPKDD 2025**

- **Hieu Vu**, Roger Struble, Philip M Polgreen, Bijaya Adhikari, and Ted Herman, *"Contact Observations from an Intensive Care Unit"*, **Scientific data, 2025**

- 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*
  GPA 4.08/4.0
- **B.Sc. in Information Systems**      Aug. 2014 – Mar. 2019
  *Hanoi University of Science and Technology (HUST)*      *Hanoi, Vietnam*
  Excellent degree, GPA 3.63/4.0

## RESEARCH EXPERIENCE

- **Research Assistant**      Aug. 2022 - Present
  *Computational Epidemiology Research Group - Advised by Prof. Bijaya Adhikari*      *Iowa City, USA*
  - Speeding up dynamic graph neural networks via coarsening (*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 backgrounds: Linear Algebra, Probability & Statistics
  - Achievement: be the second author in a publication at IEEE Access 2020

## TECHNICAL SKILLS

- *Programming Languages*: Python, Java, JavaScript, and C/C++
- *Relevant Frameworks*: Pandas, Scikit-Learn, PyTorch, PyG (PyTorch Geometric), Matplotlib
- *Web-based*: HTML/CSS/JS, NodeJS, ReactJS
- *Databases*: MySQL, MongoDB, Aerospike

## INDUSTRIAL EXPERIENCE

- **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

## ACADEMIC SERVICE

- **Reviewer**
  - epiDAMIK@KDD 2023 (program committee member), SDM (2023), KDD (2024, 2025), CIKM (2024, 2025), IJCAI (2025), AISI@AAAI (2026)

- **Teaching Assistant**                                Aug. 2025 – Dec. 2025
  *Host office hours and grade assignments*                      *Iowa City, USA*
  - CS3330 Algorithms – University of Iowa

## HONORS AND AWARDS

- **Excellent scholarship for the academic year of 2018-2019**
  *Granted for top 1% highest CPA students of HUST*

- **UIOWA Graduate and Professional Student Government Travel Grant**
  *Awarded $300 for conference travel to SDM 2025.*

- **UIOWA CS Department Travel Grant**
  *Awarded $400 for conference travel to SDM 2025.*

## REFERENCES

**Dr. Bijaya Adhikari**
*The University of Iowa*
✉ bijaya-adhikari@uiowa.edu

**Dr. Toan Tran**
*VinAI Research, Hanoi, Vietnam*
✉ v.toantm3@vinai.io

**Dr. Viet Anh Nguyen**
*Chinese University of Hong Kong*
✉ nguyen@se.cuhk.edu.hk

**Dr. Khoat Than**
*Hanoi University of Science and Technology*
✉ khoattq@soict.hust.edu.vn