THE-ANH VU-LE

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EDUCATION

Ph.D. in Computer Science, University of Illinois Urbana-Champaign — Aug 2022 - May 2027 (expected)
Advisor: Professor Tandy Warnow
Relevant coursework: Deep Learning Theory, Statistical Reinforcement Learning, Deep Generative and Dynamical Models, Transfer Learning, Real Analysis, Applied Stochastic Process, Algorithmic Game Theory, Functional Analysis, Probability Theory I, Advanced Topics in Network Science, Deep Learning with Graphs, Applied Parallel Programming, Algorithmic Genomic Biology, Formal Methods in Software Development

B.S in Computer Science, University of Science, VNU-HCM — Aug 2016 - May 2020
Honors Program, GPA: 9.62/10.00 (Valedictorian, top 1/500)
Relevant coursework: Statistical Learning, Big Data, Advanced Probability and Statistics, Computer Vision, Natural Language Processing, Information Retrieval

SKILLS

Programming languages Python (6 years), C++ (2 years), Julia (6 months), Lean (6 months)
Tools LaTeX(6 years), git (6 years), PyTorch (4 years)

SELECTED PUBLICATIONS

1. **The-Anh Vu-Le**, Lahari Anne, George Chacko, Tandy Warnow. EC-SBM Synthetic Network Generator. ***In submission*** *to Applied Network Science* [Abs] [PDF] [Code]
2. Minhyuk Park, Daniel Wang Feng, Siya Digra, **The-Anh Vu-Le**, Lahari Anne, George Chacko, Tandy Warnow. Improved Community Detection using Stochastic Block Models. *Proceedings of the 13th International Conference on Complex Networks and their Applications (CNA 2024)* [Abs] [PDF]
3. Lahari Anne, **The-Anh Vu-Le**, Minhyuk Park, Tandy Warnow, George Chacko. Synthetic Networks That Preserve Edge Connectivity. *Proceedings of the 13th International Conference on Complex Networks and their Applications (CNA 2024)* [Abs] [PDF]
4. **The-Anh Vu-Le***, Cong-Duy Nguyen*, Thong Nguyen, Tho Quan, Anh-Tuan Luu. Expand BERT Representation with Visual Information via Grounded Language Learning with Multimodal Partial Alignment. *Proceedings of the 31st ACM International Conference on Multimedia (ACMMM 2023)*. [Abs] [PDF]
5. Khai Nguyen*, Dang Nguyen*, **The-Anh Vu-Le**, Tung Pham, Nhat Ho. Improving Mini-batch Optimal Transport via Partial Transportation. *Proceedings of the 39th International Conference on Machine Learning (ICML 2022)*. [Abs] [PDF] [Code]

RESEARCH EXPERIENCE

University of Illinois Urbana-Champaign, PhD Student

Supervised by Professor Tandy Warnow on Network Science — Jan 2024 - now

- **Generation of Synthetic Networks with Community Structure**

Supervised by Professor Hari Sundaram on Applied Machine Learning — Jan - May 2024

- **Stochastic Variational Inference for Causal Inference**

Supervised by Professor Arindam Banerjee on Probabilistic Machine Learning — Jan 2023 - Dec 2023

- **Stochastic Localization**: Sampling and training of energy-based models using stochastic localization
- **SGLD**: Application of stochastic gradient Langevin dynamics to training neural networks

Supervised by Professor Bo Li on Trustworthy Federated Learning — Aug 2022 - May 2023

- **UniFed**: Benchmark of Federated Learning systems

VinAI Research, Research Resident
Supervised by Professor Tung Pham and Professor Nhat Ho on Machine Learning Jan - Aug 2022

- **Active Learning Benchmark Toolkit**: Benchmark of Active Learning algorithms
- **Computational Optimal Transport**: A collection of Optimal Transport techniques

Supervised by Professor Minh Hoai Nguyen on Computer Vision Aug - Dec 2021

- **trackun**: A Python package for multiple object tracking using Bayesian filters

SELab, University of Science, VNU-HCM, Research Assistant 2019 - 2021
Supervised by Professor Minh-Triet Tran on Computer Vision

- **RingViewNet**: A neural 3D-model embedding system, 1st place in SHREC'21
- **Re-Identification**: A framework for re-identification problems
- **Video Object Segmentation**: Object segmentation with reference from an annotated frame

Coordinated Science Laboratory, UIUC, Student Intern Aug - Nov 2019
Supervised by Professor Minh Do on Computer Vision

- **pytorch-semseg**: A framework for image semantic segmentation

PERSONAL PROJECTS

Pseudo-Random Number Sampling: A collection of pseudo-random number generators 2022

Botwar Battleship: A Unity visualization for an AI-based adversarial game 2020

torchan: A personal framework for deep learning projects 2019

HONORS

Ho Chi Minh ICT Awards, Department of Information and Communications, Ho Chi Minh City 2019

PROFESSIONAL ASSOCIATIONS

University of Illinois Urbana-Champaign, USA, Teaching Assistant

- CS 361: Probability and Statistics for Computer Science Fall 2023
- CS 443: Reinforcement Learning Spring 2024
- CS 173: Discrete Structures Fall 2024
- CS 441: Applied Machine Learning Spring 2025

VNU-HCM University of Science, Vietnam, Teaching Assistant

- Applied Mathematics and Statistics Fall 2021, Spring 2022, Fall 2022

PiMA - Projects in Mathematics and Applications, Mentor/Organizer since 2017

- Organize mathematics workshops for high school students: prepare and present the workshop content. Past topics: Linear Programming (2017), Computer Graphics (2018), Game Theory (2019), Graph Theory (2019), Probability and Statistics (2020)
- Organize annual 10-day mathematics summer camps for high school students: prepare teaching materials, give lectures, and provide assistance to students. Past topics: Math Modeling (2017), Machine Learning (2018), Deep Learning (2019), Data Science (Online, 2020), Bioinformatics (2022), Linear Programming (2023)
- Organize booths at events like Math Open Day (2019, 2020) to hold challenging games for students. Games are designed based on Combinatorial Game Theory (Nim games), brain teasers, and puzzles.

International Conference on Artificial Intelligence and Statistics (AISTATS), Reviewer 2023