

Hien Dang

☎ +84 38 90 90 270 | ✉ danghoanghien1123@gmail.com | 📍 Ho Chi Minh, Vietnam

EDUCATION

Ho Chi Minh University of Science

2016 – 2020

Bachelor in Science in Mathematics and Computer Science, Honor Program

- Supervisor: Prof. Dang Duc Trong
- GPA: 9.55/10.0, rank 1/364 in Department Cohort 2016 – 2020

RESEARCH AND WORK EXPERIENCE

FPT Software AI Center

HCMC, Vietnam

AI Research Resident

Feb 2022 – Present

- Research topics: Deep Learning Theory, Neural Collapse in Deep Neural Networks, Posterior Collapse in Variational Autoencoders, Bayesian Optimization

Society of Actuaries (SOA)

Actuarial Student

Jun 2018 – Jan 2022

- [Passed five SOA exams](#): P - Probability, FM - Financial Mathematics, SRM - Statistics for Risk Modeling, IFM - Investment and Financial Markets, STAM - Short-term Actuarial Mathematics with four maximum scores.

Sun Life Financial

HCMC, Vietnam

Actuarial Analyst

Jun 2019 – Jan 2022

- In charge of actuarial modeling (tool: GGY AXIS), valuation reporting and involved in 5-year business planning

PUBLICATIONS AND PREPRINTS

(*): Equal contribution

1. **Hien Dang***, Tho Tran*, Stanley Osher, Hung Tran-The, Nhat Ho, Tan Nguyen. [Neural Collapse in Deep Linear Networks: From Balanced to Imbalanced Data](#) (75-page paper), *Proceedings of the 40th International Conference on Machine Learning (ICML), 2023*
2. **Hien Dang**, Tho Tran, Tan Nguyen, Nhat Ho. [Beyond Vanilla Variational Autoencoders: Detecting Posterior Collapse in Conditional and Hierarchical Variational Autoencoders](#), *International Conference on Learning Representations (ICLR), 2024*
3. **Hien Dang**, Tho Tran, Tan Nguyen, Nhat Ho. [Neural Collapse for Cross-entropy Class-Imbalanced Learning with Unconstrained ReLU Features Model](#), *Under review, arXiv:2401.02058*
4. **Hien Dang**, Duy Dinh, Hung Tran-The. [An Adaptive Approach for Gradient-based Optimization using Local Bayesian Optimization](#), *In preparation*

HONORS AND AWARDS

- **Vietnam Mathematics Olympiad for Undergraduates 2017 and 2018**: three silver medals and one bronze medal in Algebra and Analysis
- **National University Admission Exam**: highest score in my home province, Soc Trang (awarded \$2000 scholarship) and highest score at Department of Mathematics and Computer Science, Ho Chi Minh University of Science (awarded 1-year tuition scholarship)
- **Soc Trang province high school mathematics competitions**: rank 1st with the score of 39.5/40.0
- **Vietnam Institute for Advanced Study in Mathematics (VIASM) Merit Scholarships** from 2018 – 2020

CONFERENCE, WORKSHOP PRESENTATIONS

- Neural Collapse in Deep Linear Networks: From Balanced to Imbalanced Data. *Poster presentation, 40th International Conference on Machine Learning (ICML), 2023*
- Neural Collapse Phenomenon in Deep Learning. *Invited talk, 10th Vietnam Mathematics Conference (VMC), 2023*

RESEARCH INTERESTS

Machine Learning, Deep Learning Theory, Statistics, Generative AI, Optimization

REFERENCES

- Professor **Nhat Ho**
Assistant Professor of Statistics and Data Sciences
University of Texas at Austin
Email: minhnhhat@utexas.edu
- Professor **Tan Nguyen**
Assistant Professor of Mathematics (Presidential Young Professor)
National University of Singapore
Email: tanmn@nus.edu.sg
- Professor **Dang Duc Trong**
Professor of Probability and Statistics
Ho Chi Minh University of Science
Email: ddtrong@hcmus.edu.vn