Quang-Huy Nguyen

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Research Interest

My research focuses on *meta-learning*, *domain adaptation*, and *black-box optimization* for general computer vision tasks. I aim to develop vision models that require minimal training data, reduce reliance on human supervision, and generalize effectively to unseen domains (*out-of-distribution detection*). Additionally, I am interested in exploring the intersection of *optimization* and *deep learning* to advance lifelong and open-world machine learning systems.

Education

- **Ph.D. in Computer Science and Engineering** — 2024 - 2029 *expected*
  College of Engineering, **The Ohio State University**
  - **Research areas**: out-of-distribution detection, domain adaptation, learning with imperfect data
  - **Advisor**: Prof. Wei-Lun (Harry) Chao
- **B.Eng. in Computer Engineering** — 2015 - 2020
  University of Information Technology, Vietnam National University - Ho Chi Minh city

Research Experience

- **Graduate Research Assistant** – **CSE, The Ohio State University** — August 2024 - Now
  Advised by: Prof. Wei-Lun (Harry) Chao — Columbus, Ohio, USA
- **AI Research Resident - FPT Software AI Residency Program** — August 2023 - July 2024
  Advised by: Prof. Dung D. Le — Ho Chi Minh City, Vietnam
- **Research Assistant - CECS, VinUniversity** — November 2022 - July 2023
  Advised by: Prof. Dung D. Le — Ha Noi, Vietnam
- **Research Assistant -VinUni-Illinois Smart Health Center, VinUniversity** — January 2022 - June 2022
  Advised by: Profs. Dung D. Le and Hieu H. Pham — Ha Noi, Vietnam
- **Undergraduate Research Assistant - University of Information Technology** — July 2019 - December 2021
  Advised by: Prof. Duc-Lung Vu — Ho Chi Minh City, Vietnam

Selected Preprints and Publications

[1] Minh-Duc Nguyen, Phuong M. Dinh, **Quang-Huy Nguyen***, Long P. Hoang, and Dung D. Le. Improving Pareto Set Learning for Expensive Multi-objective Optimization via Stein Variational Hypernetworks. In *AAAI*, 2025.

[2] **Quang-Huy Nguyen***, Jin Zhou*, Zhenzhen Liu*, Khanh-Huyen Bui, Kilian Q. Weinberger, Wei-Lun Chao, and Dung D. Le. Zero-Shot Object-Level Out-of-Distribution Detection with Context-Aware Inpainting. *under review*, 2024.

[3] **Quang-Huy Nguyen***, Long P. Hoang*, Hoang V. Vu, and Dung D. Le. Controllable Expensive Multi-objective Learning with Warm-starting Bayesian Optimization. *under review*, 2024.

[4] **Quang-Huy Nguyen**, Cuong Q. Nguyen, Dung D. Le, and Hieu H. Pham. Enhancing Few-shot Image Classification with Cosine Transformer. *IEEE Access*, 2023.

Research and Technical Skills

- **Technologies**: Pytorch, OpenCV, WandB, Bash Shell, Git Vim, LaTeX
- **Machine Learning Tools**: PyTorch, TensorFlow, Numpy, Pandas, SciPy, scikit-learn, Matplotlib, Einops, Pymoo

References

1. **Prof. Wei-Lun (Harry) Chao**, Department of Computer Science and Engineering, **The Ohio State University**, US
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2. **Prof. Dung D. Le**, College of Engineering and Computer Science, **VinUniversity**, Vietnam.
   dung.ld@vinuni.edu.vn