Quang-Huy (Percy) Nguyen

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Research Interest

I am interested in **meta-learning**, **uncertainty estimation**, and **domain adaptation** for machine learning and computer vision. In particular, my research focuses on **learning with imperfect data** (e.g., limited, noisy, or imbalanced) under **minimal human supervision**, while enabling effective **extrapolation and adaptation to unseen domains** beyond the training set. Application-wise, I am working on **medical imaging** and **animal behavior analysis**, where handling limited data with minimal supervision is vital.

Education

- **Ph.D. in Computer Science and Engineering** — 2024 – Now
  College of Engineering, **The Ohio State University**
  - **Research areas**: medical imaging, animal behavior prediction, out-of-distribution detection
  - **Advisor**: Prof. Wei-Lun (Harry) Chao

- **B.Eng. in Computer Engineering** — 2015 – 2020
  University of Information Technology, Vietnam National University - Ho Chi Minh city

Preprints and Publications

[1] Ping Zhang*, Zheda Mai*, **Quang-Huy Nguyen**, and Wei-Lun Chao. Revisiting semi-supervised learning in the era of foundation models. **NeurIPS**, 2025.

[2] Zheda Mai, Ping Zhang, Cheng-Hao Tu, Hong-You Chen, **Quang-Huy Nguyen**, Li Zhang, and Wei-Lun Chao. Lessons learned from a unifying empirical study of parameter-efficient transfer learning (PETTL) in visual recognition. **CVPR**, 2025 (**highlight, 2.98%**).

[3] **Quang-Huy Nguyen***, Jin Zhou*, Zhenzhen Liu*, Khanh-Huyen Bui, Kilian Q. Weinberger, Wei-Lun Chao, and Dung D. Le. Detecting Out-of-Distribution Objects through Class-Conditioned Inpainting. *preprint*, 2025.

[4] 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. **AAAI**, 2025.

[5] **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 Experience

- **Graduate Research Assistant – CSE, The Ohio State University** — Aug 2024 – Now
  Advised by: Prof. Wei-Lun (Harry) Chao — Columbus, OH
  - Multi-instance learning for Medical Imaging
  - Semi-supervised learning and Parameter-efficient fine-tuning for VLMs
  - Out-of-distribution object detection

- **AI Research Resident – FPT Software AI Residency Program** — Aug 2023 – Jul 2024
  Advised by: Prof. Dung D. Le — Ho Chi Minh City, Vietnam
  - Zero-shot Out-of-distribution with generative models

- **Research Assistant – CECS, VinUniversity** — Nov 2022 – Jul 2023
  Advised by: Prof. Dung D. Le — Ha Noi, Vietnam
  - Multi-objective Black-box Optimization with Gaussian Process

- **Research Assistant – VinUni-Illinois Smart Health Center, VinUniversity** — Jan 2022 – Jun 2022
  Advised by: Profs. Dung D. Le and Hieu H. Pham — Ha Noi, Vietnam
  - Few-shot learning with Transformer and Cosine-based Attention mechanism

Research and Technical Skills

- **Research Domains**: Machine Learning, Computer Vision, Deep Learning Optimization
- **Research Interests**: Generative Model, Domain Adaptation, Uncertainty Estimation, Bayesian Optimization
- **Programming Languages**: Python (primary)
- **Frameworks & Technologies**: PyTorch, TensorFlow, OpenCV, WandB, Bash, Git, Vim, LaTeX
- **Machine Learning Tools**: NumPy, Pandas, SciPy, scikit-learn, Matplotlib, Einops, PyMOO