Quang-Huy (Percy) Nguyen

Google Scholar | quanghuy0497@gmail.com | quanghuy0497.github.io | quanghuy0497

Research Interest

I am interested in developing ***reliable machine learning under imperfect data and distribution shift*** for computer vision. My research focuses on ***learning from limited data*** (e.g., noisy, few-shot, or imbalanced), ***detecting the unknown and quantifying uncertainty***, and ***adapting to novel distributions and environments***, with applications in *medical imaging* and *animal behavior analysis*.

Education

- **Ph.D. in Computer Science and Engineering** 2024 – Now
  College of Engineering, **The Ohio State University**
  - **Research areas**: medical imaging, animal behavior analysis, OOD 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

Publications

[1] **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. ***WACV 2026***.

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

[3] 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, top 2.98%)***.

[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 2026***.

[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
  - Trajectory forecasting for animal behavior analysis
  - Few-shot nCLE pancreatic pre-cancer diagnosis with multi-instance learning
- **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 object detection using off-the-shelf generative models
- **Research Assistant – CECS, VinUniversity** Nov 2022 – Jul 2023
  Advised by: Prof. Dung D. Le Ha Noi, Vietnam
  - Pareto front learning for expensive multi-objective optimization
- **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 Cosine attention for medical image analysis

Research and Technical Skills

- **Research Areas**: medical imaging, animal behavior analysis, OOD detection, semi-supervised learning, meta-learning
- **Research Interests**: Learning with Limited Data, Uncertainty Quantification, Domain Adaptation, Gaussian Processes and Bayesian Optimization
- **Research Skills**: Optimization, Experimental Design, Statistical Analysis, Scientific Visualization, Data Processing
- **Programming Languages**: Python (primary)
- **Frameworks & Technologies**: PyTorch, TensorFlow, OpenCV, Weights & Biases, Git, Bash, Vim, LaTeX
- **Machine Learning Tools**: NumPy, Pandas, SciPy, scikit-learn, Matplotlib, Einops, PyMOO