🛮 (+1) 310-254-4895 | 🗷 nguyentuanhaidang@gmail.com | 🏕 hsgser.github.io | 🖸 hsgser | 🛅 dang-nguyen-50b7a7a0 | 🞓 Dang Nguyen

Research interests

My research is centered on developing efficient and robust machine-learning algorithms for large-scale datasets and architectures. Specifically, I am focused on improving the training efficiency of large language models and enhancing their robustness. Additionally, I am interested in exploring Generative AI and Multimodal Learning, with a particular emphasis on improving data quality.

Education

University of California, Los Angeles

California, USA

Ph.D. in Computer Science

Sep. 2023 - Present

- Advised by Professor Baharan Mirzasoleiman
- UCLA Graduate Dean's Scholar Award

Toyo University

Tokyo, Japan

B.S. in Information Networking for Innovation and Design

Apr. 2017 - Mar. 2021

Jun. 2024 - Sep. 2024

- Toyo Top Global Scholarship A
- GPA: 4.27/4.3, Top 1/300 in the faculty

Experience

Google Research California, USA

Student Researcher Sep. 2024 - Dec. 2024

• Topic: Synthetic data generation for LLMs

Cisco California, USA

Supervisor: Dr. Ali Payani

• Topic: LLM Hallucination

PhD Research Intern

VinAl Hanoi, Vietnam

Al Resident Oct. 2020 - Aug. 2023

- Supervisor: Professor Nhat Ho (UT Austin)
- Topics: Optimal Transport and Model Merging

Publications

(*) denotes equal contribution

- 1. **D. Nguyen**, P. Haddad, E. Gan, and B. Mirzasoleiman. Changing the Training Data Distribution to Reduce Simplicity Bias Improves In-distribution Generalization. *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.
- 2. Y. Xue, J. Siddharth, **D. Nguyen**, and B. Mirzasoleiman. Understanding the Robustness of Multi-modal Contrastive Learning to Distribution Shift. *International Conference on Learning Representations (ICLR)*, 2024.
- 3. K. Nguyen*, **D. Nguyen***, N. Ho. Self-Attention Amortized Distributional Projection Optimization for Sliced Wasserstein Point-Cloud Reconstruction. *International Conference on Machine Learning (ICML)*, 2023.
- 4. **D. Nguyen**, T. Nguyen, K. Nguyen, D. Phung, H. Bui, and N. Ho. On cross-layer alignment for model fusion of heterogeneous neural networks. *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2023.
- 5. K. Nguyen*, **D. Nguyen***, T. A. V. Le, T. Pham, and N. Ho. Improving mini-batch optimal transport via partial transportation. *International Conference on Machine Learning (ICML)*, 2022.
- 6. K. Nguyen, **D. Nguyen**, Q. Nguyen, T. Pham, H. Bui, D. Phung, T. Le, and N. Ho. On transportation of mini-batches: A hierarchical approach. *International Conference on Machine Learning (ICML)*, 2022.

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1. **D. Nguyen**, W. Yang, R. Anand, Y. Yang and B. Mirzasoleiman. Mini-batch Coresets for Memory-efficient Training of Large Language Models. 2024.

Professional services

Reviewer at NeurIPS (2022-2024), ICML (2023-2024), ICLR (2024-2025), AISTATS (2023-2025), AAAI 2025, AdvML@NeurIPS2024

Honors & Awards

2023	UCLA Graduate Dean's Scholar Award, UCLA
2017	Toyo Top Global Scholarship A, Toyo University
2015	Silver medal, 56th International Mathematical Olympiad

2015 First Prize, Vietnam Mathematical Olympiad

California, USA Tokyo, Japan Chiang Mai, Thailand Hanoi, Vietnam