Do Huu Dat

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[Scholar](#) | [Github](#)

RESEARCH INTEREST

Understanding and building AI that perceives and models the world in a manner similar to human intelligence:

Computer Vision, Natural Language Processing, Generative Models, Gaussian Splatting, Large Language Model, Deep Reinforcement Learning

EDUCATION

VinUniversity
Bachelor of Science., Major: Computer Science
Oct 2022 – Jun 2025
Hanoi, Vietnam

POSTECH
Exchange Student
Feb 2024 – Jun 2024
Pohang, Korea

Kyushu University
Bachelor of Science., Major: Electrical Engineering and Computer Science
Oct 2021 – Aug 2022
Fukuoka, Japan

EXPERIENCE

Research Internship
Algorithmic Machine Intelligence Lab @ POSTECH (PI: Prof. Oh Taehyun)
Feb. 2024 – Sep. 2024
Pohang, Korea

- Research on 3D vision, equivariant computer vision, and generative AI, advised by Prof. Taehyun Oh and Prof. Minsu Cho.
- Research on using synthetic data to improve the compositional generalization of text-to-image diffusion models, advised by Prof. Taehyun Oh

Undergraduate Researcher
VinUniversity (PI: Prof. Wray Buntine, Prof. Laurent El Ghaoui)
Oct. 2022 – Present
Hanoi, Vietnam

- Research on diffusion models for text generation with by Prof. Wray Buntine and Prof. Luu Anh Tuan at NTU
- Implicit deep learning research with Prof. Laurent El Ghaoui
- Conduct research about compositional generalization in multi-modal data, and theoretical machine learning

Machine Learning Engineer
Upwork
Oct. 2023 – Feb. 2024
Remote

- Implemented research methodologies from academic papers, focusing on Transformers for multi-agent reinforcement learning using PyTorch.

Research Assistant
VinUni-Illinois Smart Health Center
Apr. 2023 – Sep. 2023
Hanoi, Vietnam

- Conducted research on Large Language Models (LLMs) in collaboration with Lam Nguyen from IBM-Watson.

Undergraduate Researcher
Kyushu University - Laboratory of Intelligent Systems (PI: Prof. Danilo Vargas)
Apr. 2022 – Aug. 2022
Fukuoka, Japan

- Machine learning robustness research

PUBLICATION (INTERNATIONAL)

(*Equal contribution are denoted by "*".*)

Conference

[C2] **Do Huu Dat***, Nam Hyeon-Woo, Po Yuan Mao, Tae-Hyun Oh, "VSC: Visual Search Compositional Text-to-Image Diffusion Model", CVPR2025 Under Review

[C1] **Do Huu Dat***, Do Duc Anh*, Luu Anh Tuan, Wray Buntine, "Discrete Diffusion Language Model for Long Text Summarization", NAACL2025

[C0] **Do Huu Dat**, Po Yuan Mao, Nguyen Tien Hoang, Wray Buntine, Mohammed Bennamoun, "HOMOE: A Memory-Based and Composition-Aware Framework for Zero-Shot Learning with Hopfield Network and Soft Mixture of Experts", WACV 2025

PROJECTS

CLIP-NAV: Pretraining Image-Language for Drone Navigation Repo   Apr. 2022 – Nov. 2022

- Leveraging the CLIP model's zero-shot learning abilities to address limitations in visual navigation and zero-shot semantic segmentation.

Re-implementing SODA Repo   Nov. 2023 – Dec. 2023

- Implementing the paper "SODA: Bottleneck Diffusion Models for Representation Learning" in PyTorch.

REFERENCE

Prof. Wray Buntine, Professor, VinUniversity
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Prof. Tae-Hyun Oh, Professor, POSTECH
Relationship: Internship advisor
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