

Long Dinh

Hanoi, Vietnam

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Personal Profile

I am a robotics enthusiast with research experience in deep learning and robotics. My primary interest lies in creating advanced methods for learning and planning in robotic manipulation. I am planning about pursuing a master's degree in Computer Science, specializing in Robotics, to deepen my expertise in algorithm development and enable autonomous skill acquisition in robotic systems.

Education

Hanoi University of Technology and Science (HUST)

Hanoi, Vietnam

B.S of Mechatronics

Sept 2018 - Sept 2022

- **Talent Program** - GPA: 3.43/4.0 - Ranked: 3/28
- **Thesis:** Research on application of reinforcement learning to block building problems for robotic manipulators. - **Score:** 9.8/10

Research Experience

Northeastern University

Hanoi, Vietnam

Remote Collaborator

Jan 2022 - Sep 2024

- Collaborated remotely with **Dr. Hai Nguyen** on addressing robot manipulation challenges, with a focus on exploiting symmetry properties and solving problems in partially observable environments. This collaboration resulted in two publications in **IROS-2023** and **CoRL-2024**.

Intelligent Robotics Laboratory - HUST

Hanoi, Vietnam

Undergraduate Researcher

Jan 2020 - Sep 2022

- Implemented unsupervised learning algorithms (VAEs) for error detection in manufacturing processes under **Assoc.Prof.Thanh-Hung Nguyen**.
- Implemented reinforcement learning algorithms for legged robot and robotic manipulators.

Publications

CONFERENCE PROCEEDINGS

Leveraging Mutual Information for Asymmetric Learning under Partial Observability

Hai Nguyen, **Long Dinh**, Christopher Amato, Robert Platt

8th Annual Conference on Robot Learning, 2024

Learning from Pixels with Expert Observations

Minh-Huy Hoang*, **Long Dinh***, Hai Nguyen (*Equal contribution)

IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023

Work Experience

Horus AI

Hanoi, Vietnam

Reinforcement Learning Engineer

Mar 2024 - Present

- Researched and implemented reinforcement learning algorithms (PPO/SAC) and behaviour cloning algorithms (BC, Diffusion Policy) for Luca's tasks, including picking, placing, and welding. Luca is a custom humanoid robot developed by my company.
- Applied sim-to-real techniques to enhance the robot's real-world performance.
- **Video demo:** Our robot performs a simple picking task using depth images from a fixed camera mounted on its head.
- **Technical Skills:** Python with PyTorch, NumPy, Matplotlib, IsaacGym.

Vingroup AI Engineer Training Program - Batch 2

Hanoi, Vietnam

Technical Specialist

Jul 2022 - May 2023

- **Trainee - VinBigData Institute:** Completed foundational courses in Linear Algebra, Statistics, Machine Learning, Computer Vision, and more.
- **AI Engineer - VinBrain:** Conducted research on 3D semantic segmentation methods and implemented these methods for medical image analysis. Developed a liver segmentation model that achieved $\approx 85\%$ Dice score on a Vietnamese dataset. Also implemented an unsupervised approach, Temporal Cycle-Consistency, to generate pseudo-labels for unlabeled medical image data.
- **Technical Skills:** Python with PyTorch, NumPy, Matplotlib, Pandas, MONAI.

Viettel High Technology Industries Corporation (VHT)

Hanoi, Vietnam

AI Engineer - Internship

Mar 2022 - Jun 2022

- Researched and implemented self-supervised algorithms (MOCO-v2, BYOL) to solve classification problem in radar systems, achieving model accuracy of $\approx 81\%$, comparable to that of supervised methods.
- Implemented a clustering algorithm (DBSCAN) to detect abnormal signals in radar systems.
- **Technical Skills:** Python with PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn.

Achievements

2022	Best presentation award , Thesis defend	HUST-Vietnam
2022	Second prize , Annual Conference of Students on Scientific Research, organized by the School of Mechanical Engineering	HUST-Vietnam
2021	Scholarship , Study Encouraging Scholarship in 2nd semester. (Covering 100% tuition fee)	HUST-Vietnam
2021	Scholarship , Study Encouraging Scholarship in 1st semester. (Covering 100% tuition fee)	HUST-Vietnam