

Liang Heng

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EDUCATION

Peking University

Sep 2023 - Jun 2027

Bachelor's Program in Intelligence Science and Technology, Yuanpei College

Third-year student

GPA : 3.486/4.000

Rewards : Freshman Scholarship , National Inspirational Scholarship, Yuanpei Young Scholar

Gold Medal in the National High School Biology Olympiad

Research interests : *Embodied AI* , *Robotic Manipulation* , *Generative Models*

Academic Homepage : <https://liangheng121.github.io/>

EXPERIENCE

PKU-Agibot Joint Lab

Jul 2024 - Mar 2025

Research intern

Beijing, China

Sharpa Lab

Mar 2025 - Aug 2025

Research intern

Shanghai, China

WorldEngine AI

Nov 2025 - Present

Research Intern

Los Angeles

SELECTED COUSEWORK

ViTacFormer: Learning Cross-Modal Representation for Visuo-Tactile Dexterous Manipulation

Mar 2025 - May 2025

First Author (RSS 2026 Submission)

- Proposed ViTacFormer, a unified visuo-tactile framework that fuses high-resolution vision and touch through a cross-attention encoder, enabling precise and adaptive dexterous manipulation.
- To enhance cross-modal reasoning, introduced an autoregressive tactile-prediction head that anticipates future contact signals, coupled with a two-phase curriculum to progressively refine the shared latent space.
- Achieved ~50% higher success rates than state-of-the-art methods on challenging real-world benchmarks, and became the first to autonomously complete long-horizon dexterous manipulation tasks of 11 sequential stages and 2.5 minutes continuous operation.
- website : <https://roboverseorg.github.io/ViTacFormerPage/>

RwoR: Generating Robot Demonstrations from Human Hand Collection for Policy Learning without Robot

Aug 2024 - Mar 2025

First Author (IROS 2025 Oral)

- Proposed RwoR, a scalable human-to-robot data collection framework that converts human hand demonstrations into robot gripper demonstrations via a hand-to-gripper generative model.
- To bridge the visual domain gap, designed a paired human-UML gripper dataset and a timestamp-aligned preprocessing pipeline to extract SE(3) actions and generate robot observations from human wrist-mounted camera videos.
- Achieved policy learning performance comparable to training on real robot-collected data, while removing the need for robotic hardware during demonstration collection.
- website: <https://rwor.github.io/>

Imagine2Act: Leveraging Object-Action Motion Consistency from Imagined Goals for Robotic Manipulation

Apr 2025 - Sep 2025

First Author (ICRA 2026)

- We design an imagined goal point cloud generation module that leverages powerful off-the-shelf models to ensure generation robustness under zero-shot settings. This module provides semantic and geometric object constraints for policy learning.
- We design an object-action consistency learning strategy that ensures alignment between predicted endeffector action motion and generated object transformation to effectively leverage semantic geometric prior and avoid error accumulation.
- We evaluate on both RL Bench and real-world setting, showing consistent gains over strong previous SOTA baselines.
- website: <https://sites.google.com/view/imagine2act>