JINZHOU LI

jinzhou.li@duke.edu | kingchou007.github.io | +1 802-777-8204

RESEARCH GOAL

My research focuses on enabling robots to achieve **human-level dexterity** in complex environments. I work on bridging the gap between human and robotic capabilities through **dexterous manipulation**, **tactile sensing**, and **machine learning** approaches.

EDUCATION

Duke University — Durham, NC
Incoming Ph.D. Student in Robotics — 2025 ~
Adviser: Prof. Xianyi Cheng
Research: Dexterous Manipulation

Cornell University — Ithaca, NY
M.Eng. in Systems Engineering (Concentration on Robotics) — Aug 2022 – Dec 2023
Adviser: Prof. Maha Haji

- Selected Coursework: Computer Vision, Reinforcement Learning, Foundation of Robotics, Robot Learning, Bio-inspired Coordination of Multi-Agent Systems, Systems Optimization

The University of Vermont — Burlington, VT
B.S. in Computer Science — Aug 2017 – May 2021

RESEARCH

Peking University, PKU-AGIBOT Lab — Beijing, China
Research Assistant, Advisor: Prof. Hao Dong — Feb 2024 – Jun 2025
Topic: Tactile Dexterous Manipulation, Sim2Real, Real2Sim2Real

Cornell University, SEA Lab & MIT, Engineering System Lab — Ithaca, NY
Research Assistant, Advisors: Prof. Maha Haji & Prof. Daniel Hasting — Aug 2022 – May 2023
Topic: Hybrid Agent-Based Model and Discrete Event Simulation to Optimize AUV Fleet Operations

PUBLICATION (* Equal Contribution)

PREPRINT:

1. TwinAligner: Visual and Physical Real2Sim2Real All-in-one for Robotic Manipulation
   Hongwei Fan*, Hang Dai*, Jiyao Zhang*, **Jinzhou Li**, Qiyang Yan, Yujie Zhao, Xuanyu Lai, Hao Tang, Hao Dong
   *Conference on Robot Learning (**CoRL**), 2025 ~ In submission*

2. ClutterDexGrasp: A System for General Closed-Loop Dexterous Grasping in Cluttered Scenes
   Zeyuan Chen∗, Qiyang Yan∗, Yuanpei Chen∗, Jiyao Zhang, Tianhao Wu, Zihan Ding, **Jinzhou Li**, Yaodong Yang, Hao Dong
   *Conference on Robot Learning (**CoRL**), 2025 ~ In submission*

3. Adaptive Visual-Tactile Fusion with Predictive Force Attention for Dexterous Manipulation
   Jinzhou Li*, Tianhao Wu*, Jiyao Zhang**, Zeyuan Chen**, Haotian Jin, Mingdong Wu, Yujun Shen, Yaodong Yang, Hao Dong
   *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2025 ~ In submission*
   [Paper] [Web]

4. SimLauncher: Launching Sample-Efficient Robotic Reinforcement Learning via Simulation Pre-training
   Mingdong Wu*, Lehong Wu*, Yizhuo Wu*, Weiyao Huang, Hongwei Fan, Zheyuan Hu, Haoran Geng, **Jinzhou Li**, Jiahe Ying, Long Yang, Yuanpei Chen, Hao Dong
   *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2025 ~ In submission*

CONFERENCE:

1. Canonical Representation and Force-Based Pretraining of 3D Dexterous Visuo-Tactile Policy Learning
   Tianhao Wu, **Jinzhou Li***, Jiyao Zhang*, Mingdong Wu, Hao Dong
   *IEEE International Conference on Robotics and Automation (**ICRA**), 2025*
   [Paper] [Web] [Code]

2. HGIC: A Hand Gesture Based Interactive Control System for Efficient and Scalable Multi-UAV Operations
   Mengsha Hu, **Jinzhou Li.**, Runxiang Jin, Chao Shi, Lei Xu, Rui Liu
   *33rd IEEE International Symposium on Robot and Human Interactive Communication (**RO-MAN**), 2024*
   [Paper] [Code]

PRESENTATION:

1. HGIC: A Hand Gesture Based Interactive Control System for Efficient and Scalable Multi-UAV Operations
   Jinzhou Li., Mengsha Hu, Lei Xu, Yibei Guo, Rui Liu
   *IEEE International Symposium on Multi-Robot & Multi-Agent Systems (**MARS**), 2023*
   [Poster]

PROFESSIONAL EXPERIENCE

AGI-BOT Inc. Beijing, China
Research Intern Feb. 2024 – Present

- Developed grasping strategies using reinforcement learning in **Isaac Gym**, designing observation/action spaces and reward functions while optimizing hyperparameters to achieve reliable object manipulation.
- Implemented and fine-tuned state-of-the-art robot learning models including **diffusion-based variant policies**, **ACT**, and **Vision-Language-Action frameworks** (Pi0, OpenVLA) to enhance robotic understanding and execution capabilities.
- Engineered a comprehensive ROS-based teleoperation system that seamlessly integrated diverse hardware components (multi-fingered robotic hands, tactile sensors) and control algorithms, implementing precise **finger-joint retargeting** from human demonstrations and intuitive **VR-based control** interfaces for dexterous manipulation tasks.

TEACHING

Cornell University, School of Computer Information Science Ithaca, NY
Teaching Assistant to Intro to Deep learning (Meta CS 4782) Sept. 2023 – Nov. 2023

- Designed educational content for reinforcement learning, including slides and *written/programming assignments*, focusing on Markov Decision Processes (MDP), Q-Learning, and Policy Gradient, and Reinforcement learning from human feedback (RLHF)

AWARDS

- Vermont Scholars Award ($ 5,000 per semester) 2017 ~ 2021
- Dean's List 2020, 2021

SKILLS

Software: OnShape, AnyLogic
Programming Language: Python, Rust, C++
Robot Hardware & Sensor Experiences: Leap Hand, Hello Robot, Franka, ALOHA, Flexiv
Robot Simulation Environment and Framework: ROS, PyTorch, Unreal Engine, Issac Gym