JINZHOU LI

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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 ~
Advisor: Prof. Xianyi Cheng
Research: Dexterous Manipulation

Cornell University Ithaca, NY
M.Eng. in Systems Engineering, Robotics Aug 2022 – Dec 2023
Advisor: 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 Mar 2024 – Jun 2025
Topic:

- Tactile Dexterous Manipulation (IROS 2025, ICRA 2025)
- Sim2Real (IROS 2025)
- 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
- System of Systems Concept for Effective Oceans to Near Space Observation

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
   *The 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
   *The Conference on Robot Learning (**CoRL**), 2025 ~ In submission*

CONFERENCE:

1. 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*

2. 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*

3. 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*

4. 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*

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 (**MRS**), 2023*

PROFESSIONAL EXPERIENCE

AGI-BOT Inc. Beijing, China
Research Intern 2025 Summer

- 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 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

PROFESSIONAL SERVICE

- Conference Reviewer: ICRA 2024, 2025

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: ROS1/2, PyTorch, Unreal Engine, Issac Gym