

Chenrui Tie

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EDUCATION

National University of Singapore, Singapore

PhD Student in Computer Science

Aug 2024 - present

Peking University, Beijing, China

Bachelor of Intelligence Science and Technology

Sept 2019 - June 2024

PUBLICATIONS

* denotes equal contribution

- [1] **Chenrui Tie***, Shengxiang Sun*, Jinxuan Zhu, Yiwei Liu, Jingxiang Guo, Yue Hu, Haonan Chen, Junting Chen, Ruihai Wu, Lin Shao. "Manual2Skill: Learning to Read Manuals and Acquire Robotic Skills for Furniture Assembly Using Vision-Language Models" Robotics: Science and Systems(RSS)2025 [Project] [Paper]
- [2] **Chenrui Tie***, Yue Chen*, Ruihai Wu*, Boxuan Dong, Zeyi Li, Chongkai Gao, Hao Dong. "ET-SEED: Efficient Trajectory-level SE(3) Equivariant Diffusion Policy " International Conference on Learning Representations(ICLR)2025 [Project] [Paper]
- [3] Yue Chen*, **Chenrui Tie***, Ruihai Wu*, Hao Dong. "EqvAfford: SE (3) Equivariance for Point-Level Affordance Learning" Conference on Computer Vision and Pattern Recognition(CVPR) 2024 Workshop EquiVision [Paper]
- [4] Zhixuan Xu*, Chongkai Gao*, Zixuan Liu*, Gang Yang*, **Chenrui Tie**, Haozhuo Zheng, Haoyu Zhou, Weikun Peng, Debang Wang, Tianyi Chen, Zhouliang Yu, Lin Shao. "ManiFoundation Model for General-Purpose Robotic Manipulation of Contact Synthesis with Arbitrary Objects and Robots " International Conference on Intelligent Robots and Systems(IROS)2024, Oral [Project] [Paper]
- [5] Ruihai Wu*, **Chenrui Tie***, Yushi Du, Yan Zhao, Hao Dong. "Leveraging SE(3) Equivariance for Learning 3D Geometric Shape Assembly" International Conference of Computer Vision (ICCV) 2023 [Project] [Paper]
- [6] Gang Yang, Siyuan Luo, Yunhai Feng, Zhixin Sun, **Chenrui Tie**, Lin Shao. "Jade: A Differentiable Physics Engine for Articulated Rigid Bodies with Intersection-Free Frictional Contact" IEEE International Conference on Robotics and Automation (ICRA) 2024 [Project] [Paper]

RESEARCH EXPERIENCE

Research on Robot Learning and Intelligent System Lab

PhD student, Advisor: [Prof. Lin Shao](#)

National University of Singapore

Jul 2024 - present

Research on HyperPlane Lab

Undergraduate Research Assistant, Advisor: [Prof. Hao Dong](#)

Peking University

Dec 2022 - Jun 2024

Research on Embodied Perception and Interaction (EPIC) Lab

Undergraduate Research Assistant, Advisor: [Prof. He Wang](#)

Peking University

Aug 2021 - Nov 2022

TECHNICAL SKILLS

- Programming:** Python, C++, Matlab
- Simulators:** SAPIEN, ISAAC SIM, ISAAC GYM, Nimble, DiffCloth, Open Dynamics Engine
- Physical Robot Experience:** Franka, Flexiv rizon, Xarm
- Deep Learning Framework:** PyTorch(Proficient)

HONORS AND AWARDS

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|---|------|
| Research Scholarship , National University of Singapore | 2024 |
| Lee Wai Wing Scholarship , Peking University | 2023 |
| Merit Student award, Peking University | 2023 |
| Merit Student award, Peking University | 2022 |
| Achievement Improvement award, Peking University | 2021 |
| Qin-Jin Scholarship, Peking University | 2020 |