

Leiyao Cui

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Education

Ph.D. at University of Chinese Academy of Sciences

- Majoring in Pattern Recognition and Intelligent System
- Co-advised by Prof. [Yixin Zhu](#) (Peking University) and Prof. [Zhi Han](#) (University of Chinese Academy of Sciences)
- Working on the robotic perception and robot manipulation research projects

Beijing, China
Sept 2024 – present

B.Eng. at Beijing Institute of Technology

- Majored in Electronic Information Engineering
- GPA: 3.9/4.0; Top 2% among 400+ students
- Enjoy a wide range of interests in embedded systems, computer vision, and robotics

Beijing, China
Oct 2020 – June 2024

Experience

CoRe Lab, Peking University, Co-advised Ph.D. Student

- Co-advised by Prof. [Yixin Zhu](#) (Peking University) and Prof. [Zhi Han](#) (University of Chinese Academy of Sciences)

Beijing, China
Sept 2023 – present

Institute for AI Industry Research, Tsinghua University, Research Intern

- Advised by Prof. [Hao Zhao](#)
- Worked on 2D/3D computer vision and SLAM-related research projects

Beijing, China
July 2022 – Mar 2024

Publications

Vi-TacMan: Articulated Object Manipulation via Vision and Touch

Leiyao Cui*, Zihang Zhao*, Sirui Xie*, Wenhuan Zhang*, Zhi Han, Yixin Zhu
arXiv preprint arXiv:2510.06339

Oct 2025

DrivAerStar: An Industrial-Grade CFD Dataset for Vehicle Aerodynamic Optimization

Jiyan Qiu, Lyulin Kuang, Guan Wang, Yichen Xu, **Leiyao Cui**, Shaotong Fu, Yixin Zhu, Ruihua Zhang
Proceedings of the Neural Information Processing Systems Track on Datasets and Benchmarks

Sept 2025

B*: Efficient and Optimal Base Placement for Fixed-Base Manipulators

Zihang Zhao*, **Leiyao Cui***, Sirui Xie*, Saiyao Zhang, Zhi Han, Lecheng Ruan, Yixin Zhu
IEEE Robotics and Automation Letters

Sept 2025

TacMan-Turbo: Proactive Tactile Control for Robust and Efficient Articulated Object Manipulation

Zihang Zhao*, Zhenghao Qi*, Yuyang Li, **Leiyao Cui**, Zhi Han, Lecheng Ruan, Yixin Zhu
arXiv preprint arXiv:2508.02204

Aug 2025

Afford-X: Generalizable and Slim Affordance Reasoning for Task-oriented Manipulation

Xiaomeng Zhu*, Yuyang Li*, **Leiyao Cui**, Pengfei Li, Huan-ang Gao, Yixin Zhu, Hao Zhao
arXiv preprint arXiv:2503.03556

Mar 2025

MiniTac: An Ultra-Compact 8 mm Vision-Based Tactile Sensor for Enhanced Palpation in Robot-Assisted Minimally Invasive Surgery

Wanlin Li*, Zihang Zhao*, **Leiyao Cui***, Weiye Zhang*, Hangxin Liu, Li-An Li, Yixin Zhu
IEEE Robotics and Automation Letters

Oct 2024