Xuanbin Peng

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Education

Harbin Institute of Technology, Shenzhen — Shenzhen, CHN
Junior Student in Automation — *Sep. 2021 – now*

- CGPA: 94.98/100 Ranking: 2/256
- Advised by Xiaogang Xiong

University of California, San Diego — San Diego, US
One-Year Exchange Student — *Fall 2023 – Spring 2024*

- GPA: 4.0/4.0
- Advised by Xiaolong Wang

Publications & Preprints

- Qiwei Wu*, **Xuanbin Peng***, Jiayu Zhou, Zhouran Sun, Xiaogang Xiong, and Yunjiang Lou, *"Semi-supervised Sim2real of Tactile Control Policies for Contact-Rich Manipulation Tasks"*, *IEEE International Conference on Robotics and Automation (IROS), 2024.* Under Review.
- Tianlin Zhang, **Xuanbin Peng**, Xiaogang Xiong, Yang Bai, and Yunjiang Lou, *"Whole-body Compliant Control for Quadruped Manipulator with Torque Saturation"*, *IEEE International Conference on Robotics and Automation (IROS), 2024.* Under Review.

Selected Honors & Awards

National Scholarship.(0.4%)	2022
National First Prize in RoboMaster2022 Robotics Contest.	2022
Fisrt-Class Undergraduate Acadamic Scholarship*2 (Ranking 1st).	2021-2023
Excellent Student*2.	2021-2023

Selected Projects

Vision-Guided UAVs for Precision Targeting of Moving Objects Dec.2021–Feb.2022
Critical HIT Lab — *HITSZ*

- High-speed flight capabilities for fast moving objects targeting.
- Vision-based state estimation and feedback control with high accuracy and robustness against interference.
- Model Predictive Control (MPC) for improved resilience and adaptability during flight and shooting operations.

A Versatile Mobile Robot With a Visual-aided Suction Gripper Apr.2022–Aug.2022
Critical HIT Lab — *HITSZ*

- Three-DOF suction gripper: Enhanced grasping flexibility and precision.
- Multifunctionality: Versatile robot for various tasks, like grasping and dragging.
- Vision-based alignment: Improved accuracy and efficiency for manipulation tasks.

A Visualizing Pandemic Simulator for Analyzing Epidemic Dynamics Jan.2022–Feb.2022
Advisor: Prof. Xiaojun Wu — *HITSZ*

- Interactive visualization interface.
- Improved population modeling using a normal distribution model.
- Optimized simulation performance with quadtree collision detection algorithm.

A Hybrid Legged-Wheeled Robot with Robustness and Efficiency Apr.2022–Aug.2022
NG.XY Lab — *HITSZ*

- Hybrid legged-wheeled robot design for improved mobility and terrain adaptability.
- Linear Quadratic Regulator (LQR) control methods for enhanced control performance.
- Capable of demonstrating agility with various motions such as jumping and rotating.

Skills

Languages: English (*IELTS* :7.5), Mandarin Chinese (native)

Programming: C/C++, Python, HTML, JavaScript

Tools: Git, MATLAB/Simulink, PyTorch, ROS, STM32, Solidworks, OpenCV, Gazebo, LaTeX