Chendong Xin

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Education

Department of Automation, Tsinghua University *Aug 2022 – Jun 2026 (Expected)*

Overall GPA: 3.917/4.0 **Ranking:** 18/145
Scholarship: "HanDe" Scholarship (2024, 4/145)
Core Courses: Computer Languages and Programming, Random Mathematics and Statistics, Principles of Artificial Intelligence, Pattern Recognition and Machine Learning

Research Experience

Compliant Residual DAgger: Improving Real-World Contact-Rich Manipulation with Human Corrections *Jun 2025 – Sep 2025*

Advisor: ***Prof. Shuran Song****, Department of Electrical Engineering, Stanford University*

- Developed a compliant intervention interface and a compliant residual policy formulation for Dataset Aggregation in real-world contact-rich manipulation.

My contributions:

- Increased success rates to over 90% on four challenging tasks (e.g., belt assembly, cable routing), improving baselines by a large margin with minimal human corrections.
- Proposed design improvements, including adopting flow matching as the policy structure and introducing a multi-batch training strategy.

Submitted to the Thirty-Ninth Annual Conference on Neural Information Processing Systems (NeurIPS 2025); third author.

Analyzing Key Objectives in Human-to-Robot Retargeting for Dexterous Manipulation *Jan 2025 – Apr 2025*

Advisor: ***Prof. Xiang Li****, Department of Automation, Tsinghua University*

- Developed a VR-headset-based real-time teleoperation system for dexterous manipulation tasks.
- Formulated a unified retargeting objective for dexterous human-to-robot hand retargeting.
- Evaluated the impact of each component in the full objective through experimental ablation studies in kinematic posture retargeting and real-world teleoperated manipulation tasks.

Submitted to IEEE Robotics and Automation Practice, 2025; first author.

Hybrid Gripper and Adaptive Strategy for Robust Grasping in Clutter: RGMC Champion Solution *Feb 2025 – May 2025*

Advisor: ***Prof. Xiang Li****, Department of Automation, Tsinghua University*

- Designed a hybrid end-effector integrating a parallel gripper, a suction cup, and an electromagnet.
- Proposed a complete and robust algorithm pipeline for object detection, grasping pose generation, motion planning, and decluttering.
- Deployed the system in competition to sequentially pick specified objects in cluttered scenarios.

Won the ICRA 2025 Robotic Grasping and Manipulation Competition (RGMC) "Picking from Clutter" track; team leader.

Skills

Programming: C, C++, Python, Matlab, Verilog
Tools: PyTorch, ROS, Multisim, SolidWorks, LaTeX
Robots: UR5, UR5e, Franka Emika Panda, LEAP Hand
Research: Robotics, Manipulation, Reinforcement Learning, Control