

HaoYu Zhou

+44 7592554225 | haoyu at robots dot ox dot ac dot uk | object814.github.io

EDUCATION

University of Oxford, DPhil in Engineering Science United Kingdom		Oct 2025 – Present
National University of Singapore, MSc in Robotics Singapore	GPA: 4.50 / 5.0	Aug 2023 – Jan 2025
Beihang University, BEng in Robotics Engineering Beijing, China	GPA: 3.67 / 4.0	Sep 2019 – Jun 2023

PUBLICATIONS

Benchmarking World Models for Continual Learning on Compositional Tasks	NeurIPS 2026 workshop accepted
ManiFoundation Model for General-Purpose Robotic Manipulation of Contact Synthesis with Arbitrary Objects and Robot	IROS 2024 Oral
Generalizable Long-Horizon Manipulations with Large Language Models	Arxiv Preprint
ClothesNet: An Information-Rich 3D Garment Model Repository with Simulated Clothes Environment	ICCV 2023 accepted

RESEARCH EXPERIENCE

Prof. Ingmar Posner, Doctor of Philosophy Student Oxford Robotics Institute, Department of Engineering Science, Oxford	Oct 2025 – Present
Benchmarking World Models for Continual Learning on Compositional Tasks, <i>NeurIPS 2026 workshop accepted</i> Introduced a compositional continual learning benchmark and structural model-separation framework for robotic world models, isolating knowledge reuse along action and perception axes to evaluate and mitigate catastrophic forgetting in complex manipulation tasks through reusing prior knowledge.	
Prof. Lin Shao, Master's Student Department of Computer Science, NUS	Aug 2023 – Jan 2025
Generalizable Long-Horizon Manipulations with Large Language Models, <i>arXiv Preprint</i> Developed a framework that uses Large Language Models (ChatGPT) to generate and generalize task conditions for general-purpose robot manipulation, enabling adaptability to novel objects and unseen tasks. ManiFoundation Model for General-Purpose Robotic Manipulation and Contact Synthesis with Arbitrary Objects and Robots, <i>IROS 2024 Oral</i> Developed a model for everyday robotic manipulation that generalizes contact information across different objects and robots, enabling reliable manipulation of both rigid and deformable objects through an adaptable framework. ClothesNet: An Information-Rich 3D Garment Repository with Simulated Clothes Environment, <i>ICCV 2023</i> Introduced "ClothesNet," a 3D garment dataset with rich annotations, supporting cloth perception and manipulation tasks in both simulation and real-world environments.	
Prof. Yu Haoyong, Master's Course Project Department of Biomedical Engineering, NUS	Mar 2024 – May 2024
Vision-Based Exoskeleton Pose Estimation with Simple RGB Cameras Developed a multi-camera synchronization and coordinate unification method, aligning pose data across cameras for exoskeleton movement tracking. The system is used for pose evaluation on the Active Back Support Exoskeleton designed for helping laboring workers at Biorobotics Lab.	

WORK EXPERIENCE

Roboscience, Robotics Engineer Intern Shenzhen, China	Feb 2025 – Jul 2025
- Developed a hybrid position–force control strategy from scratch for contact-rich furniture assembly, using end-effector force sensing to enable precise peg-in-hole insertion under geometric uncertainty. - Integrated the control framework with a vision-based perception pipeline in MoveIt (Python), and operated the system in multiple live demonstrations to investors and industrial partners.	

COMPETITIONS

National ROBOCON Competition 2022 @ China, National First Prize Computing group leader, Beihang University Robotics Team	Dec 2021 - Jun 2022
Developed a vision based real-time ball position tracking system, based on RGB camera and object tracking algorithm, on Nvidia Jetson Xavier Platform with ROS.	