

Zhexi Luo

Personal Page

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Education

Sun Yat-sen University (#8 in China, US News Ranking 2025)

09/2022 - Current

Bachelor of Engineering, anticipated graduation in June 2026

Major: Computer Science and Technology

Cumulative GPA: 3.6/4.0

Course Grades: Advanced Mathematics: 94, Linear Algebra: 93, Probability Theory: 92, Principles of Computer Organization: 90, Operating Systems: 95, Artificial Intelligence: 94

Main Research Interests

Robot Learning, Dexterous Grasping and Manipulation, and unlocking the capabilities of foundation models in robotic systems.

Publications

OmniDexGrasp: Generalizable Dexterous Grasping via Foundation Model and Force Feedback

Yi-Lin Wei*, **Zhexi Luo***, Yuhao Lin, Mu Lin, Zhizhao Liang, Shuoyu Chen, Wei-Shi Zheng

Submitted to IEEE International Conference on Robotics and Automation (ICRA), 2025 (indicates equal contribution)*

DriftTrace: Combating Concept Drift in Security Applications through Detection and Explanation

Yuedong Pan, Lixin Zhao, Tao Leng, **Zhexi Luo**, Lijun Cai, Aimin Yu, Dan Meng

Submitted to IEEE Transactions on Information Forensics and Security (T-IFS), 2025

Research Experience

OmniDexGrasp: Generalizable Dexterous Grasping via Foundation Model and Force Feedback

04/2025 - 09/2025

Intelligence Science and System Lab (ISEE), Sun Yat-sen University, Guangzhou, China

- Proposed OmniDexGrasp, a generalizable dexterous grasping framework that leverages foundation models to achieve omni-capabilities across diverse user prompts, dexterous embodiments, and grasping tasks.
- Implemented a human-image-to-robot-action transfer pipeline with force-aware control, enabling robust and safe execution on physical robots and outperforming state-of-the-art methods.

DriftTrace: Combating Concept Drift in Security Applications through Detection and Explanation

10/2024 - 02/2025

Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China

- Developed DriftTrace, an innovative system to detect, explain, and adapt to concept drift in cybersecurity applications by identifying data distribution deviations at the individual sample level, reducing the need for large annotated datasets.

Smoke Removal in Laparoscopic Surgical Videos

04/2024 - 09/2024

Computational Medical Imaging Lab, Sun Yat-sen University, Guangzhou, China

- Developed a smoke removal model for laparoscopic surgery videos, leveraging spatiotemporal information from smoke-free frames to generate high-quality clear images from unpaired video data and enhance surgical visibility.

Internship Experience

Algorithm Intern

09/2024 - 12/2024

Zhongshi Technology, Guangzhou, China

- Fine-tuned an OCR model on an 8-core V100 GPU using a large-scale business dataset (>250,000 images), implementing end-to-end text recognition and key information extraction to improve accuracy by 8%.

Awards and Achievements

First Prize

China Undergraduate Mathematical Contest in Modeling, 2023