Zhexi Luo

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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 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
Under Review, IEEE International Conference on Robotics and Automation (ICRA), 2026 (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
Under Review, IEEE Transactions on Information Forensics and Security (T-IFS), 2026

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