Zhexi Luo

I am **Zhexi Luo**, an undergraduate in Computer Science at **Sun Yat-sen University**, advised by Prof. Wei-Shi Zheng at ISEE@SYSU. I am also a research intern at the **Institute of Information Engineering, Chinese Academy of Sciences**, advised by Prof. Aimin Yu.

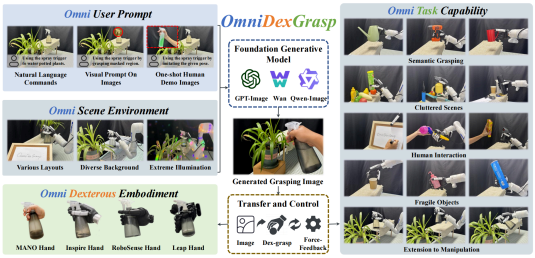
My research focuses on robot learning, especially dexterous manipulation with dexterous hands and robot foundation models. I aim to build generalizable and dexterous robotic systems that leverage foundation models to interact naturally with the real world.

Outside of research, I am a surfer who enjoys exploring the world's surf spots. I am also the proud dad of Mocha, a Samoyed with Siberian heritage.

If you have any ideas or thoughts related to my research, feel free to reach out!

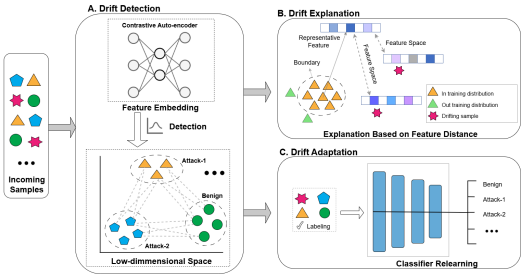
Email / LinkedIn / Github

Research



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 peer review, 2025
arXiv page / project page / code

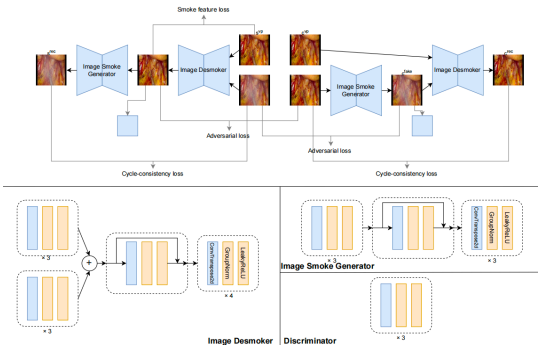
A generalizable dexterous framework that leverages generative foundation models to achieve omni-capabilities across diverse user prompts, dexterous embodiments, and grasping tasks.



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 peer review, 2025
project page / arXiv page / code

An AE-based framework for detecting, explaining, and adapting to the evolution of threat samples.

Project



Smoke Removal in Laparoscopic Surgical Videos Using Temporal Smoke-Free Semantic Information

Developed a novel framework that integrates video prediction and image desmoking to address surgical smoke in laparoscopic videos. By leveraging temporal semantic information from smoke-free frames within a Cycle-GAN based architecture, the framework achieves real-time smoke removal and demonstrates superior performance over existing approaches, improving surgical visibility and safety.

Experience

Sun Yat-sen University
Bachelor in Computer Science and Technology
2022 - Present

Awards

- First Prize in National Mathematical Contest in Modeling 2023