ZHENYU WEI

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EDUCATION

Shanghai Jiao Tong University (SJTU), China — Sep. 2021 - Jun. 2025 (expected)
B.E. in Computer Science (Zhiyuan Honors Program of Engineering) — **GPA:** 4.0/4.3 (92.1/100)

PUBLICATIONS

1. Jingxiang Guo*, Jiayu Luo*, **Zhenyu Wei***, Yiwen Hou, Zhixuan Xu, Xiaoyi Lin, Chongkai Gao, Lin Shao, "TelePreview: A User-Friendly Teleoperation System with Virtual Arm Assistance for Enhanced Effectiveness". In submission to RA-L. [Web]
2. Haonan Chen, Junxiao Li, Ruihai Wu, Yiwei Liu, Chongkai Gao, Zhixuan Xu, Yiwen Hou, Jingxiang Guo, **Zhenyu Wei**, Siang Chen, Chenting Wang, Shensi Xu, Jiaqi Huang, Weidong Wang, Lin Shao, "MetaFold: Language-Guided Cross-Category Garment Folding Framework via Trajectory Generation and Foundation Model". In submission to CVPR 2025. [Web]
3. **Zhenyu Wei***, Zhixuan Xu*, Jingxiang Guo, Yiwen Hou, Chongkai Gao, Zhehao Cai, Jiayu Luo, Lin Shao, "$\mathcal{D}(\mathcal{R},\mathcal{O})$ Grasp: A Unified Representation for Cross-Embodiment Dexterous Grasping". Accepted to **ICRA 2025**; CoRL 2024 @ MAPoDeL, **Best Robotics Paper Award & Oral Presentation**; CoRL 2024 @ LFDM, **Spotlight Presentation**. [Web]
4. Bo Pang, **Zhenyu Wei**, Jingli Lin, Cewu Lu, "Auto-Pairing Positives through Implicit Relation Circulation for Discriminative Self-Learning". Accepted to **TPAMI**.

RESEARCH EXPERIENCE

Research Intern, Machine Vision and Intelligence Group — Oct. 2022 - May 2024
Advisor: Prof. Cewu Lu — Shanghai Jiao Tong University, China

- We propose the Implicit Relation Circulation (IRC) framework for self-supervised learning, which leverages cycle consistency to automatically discover dense positive pairs from existing relations within simpler tasks. This approach enables effective representation learning across images, point clouds, and multi-modal data.

Research Assistant, LinS Lab — Jun. 2024 - present
Advisor: Prof. Lin Shao — National University of Singapore, Singapore

- Focused on **dexterous grasping** for cross-embodiment:
  - We propose a novel interaction-centric representation, $\mathcal{D}(\mathcal{R},\mathcal{O})$, combined with a configuration-invariant pretraining approach that learns correspondences across different robot configurations, enhancing grasping quality, efficiency, and generalizability across diverse robots, objects, and environments.
- Focused on **robot teleoperation**:
  - We propose a low-cost teleoperation system utilizing data gloves and IMU sensors, paired with an assistant module that improves the data collection process by visualizing future robot operations through previews.

AWARDS

- **Best Robotics Paper Award**, CoRL 2024 @ MAPoDeL — 2024
- Outstanding Scholarship of Computer Science Alumni Fund (Top 5%) — 2024
- Huawei Scholarship (Top 5%) — 2023
- The Tung Foundation Scholarship (Top 5%) — 2022
- Zhiyuan Honors Scholarship (Top 5%) — 2021 - 2024
- Merit Student & Merit Scholarship of Shanghai Jiao Tong University (Top 10%) — 2022 - 2024

MISCELLANEOUS

Language Chinese (Native), English (TOEFL: 104), Japanese (amateur)
Programming Python, C/C++, HTML, CSS, Assembly Language, Verilog
Academic Service Reviewer for ICRA 2025