

ZHENYU WEI

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EDUCATION

Shanghai Jiao Tong University (SJTU), China Sep. 2021 - Jun. 2025 (expected)
B.E. in Computer Science (Zhixuan Honors Program of Engineering) **GPA: 4.01/4.3 (92.45/100)**

PUBLICATIONS

- $\mathcal{D}(\mathcal{R}, \mathcal{O})$ Grasp: A Unified Representation for Cross-Embodiment Dexterous Grasping** [\[Web\]](#)
Zhenyu Wei*, Zhixuan Xu*, Jingxiang Guo, Yiwen Hou, Chongkai Gao, Zhehao Cai, Jiayu Luo, Lin Shao
In submission to IEEE International Conference on Robotics & Automation (ICRA 2025)
- Auto-Pairing Positives through Implicit Relation Circulation for Discriminative Self-Learning**
Bo Pang, **Zhenyu Wei**, Jingli Lin, Cewu Lu
In submission (Minor Revisions) to IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

RESEARCH EXPERIENCE

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

Auto-Pairing Positives through Implicit Relation Circulation for Discriminative Self-Learning

- We propose the Implicit Relation Circulation (IRC) framework, leveraging cycle consistency to automatically discover positive pairs from easily obtainable pairs within simpler tasks.
- We apply IRC to tasks such as learning pixel-level relations from image-level pairs, 3D temporal point cloud relations, and leveraging language for image representation without pre-existing vision-language pairs.
- Contribution:** Design and implement the dense vision module, enhancing pixel-level contrastive learning by integrating image- and pixel-level relations, resulting in a more effective pretrained model.

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

$\mathcal{D}(\mathcal{R}, \mathcal{O})$ Grasp: A Unified Representation for Cross-Embodiment Dexterous Grasping

- We propose a novel representation, $\mathcal{D}(\mathcal{R}, \mathcal{O})$, tailored for dexterous grasping tasks. This interaction-centric formulation transcends conventional robot-centric and object-centric paradigms, facilitating robust generalization across diverse robots, objects, and environments.
- We propose a configuration-invariant pretraining approach that learns correspondences across different robot configurations, thereby enhancing the model's capability to capture motion constraints for robotic hands.
- We perform extensive experiments in both simulation environments and real-world settings, validating the efficacy of our proposed representation and framework in grasping novel objects with multiple robots.

AWARDS

- The Tung Foundation Scholarship (Top 5%) 2022
- Huawei Scholarship (Top 5%) 2023
- Outstanding Scholarship of Computer Science Alumni Fund (Top 5%) 2024
- Zhiyuan Honors Scholarship (Top 5%) 2021 & 2022 & 2023
- SJTU Merit Student & Merit Scholarship (Top 10%) 2022 & 2023

SKILLS

Language Chinese (Native), English (TOEFL: 104), Japanese (amateur)
Programming Python, C/C++, HTML, CSS, Assembly Language, Verilog
Tools \LaTeX , Linux, Vim, Arduino