

Zhiyuan Wei

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EDUCATION

School of Electronics Engineering and Computer Science, Peking University(PKU)

Beijing, China

B.S. in Computer Science

Aug 2023-Present

- Core Courses: Linear Algebra, Introduction to Discrete Mathematics, Probability theory and statistics in information science, Set Theory and Graph Theory, Algorithm Design and Analysis, Mechanics, Introduction to Artificial Intelligence, Introduction to Computer Vision, Compute Imaging, Introduction to Embodied AI, Introduction to Computer Systems, Introduction to Generative Models, Introduction to Multi-Agent, Foundation of 3D Vision, Computer Networks, Computer Architecture, Operating System, Software Engineering, Data Structure and Algorithm
- Award: Second Prize in PKU-ICPC(International Collegiate Programming Contest), Provincial Second Prize in the 39th CPhO(Chinese Physics Olympiad in High School).

RESEARCH INTERESTS

Machine Learning, Computer Vision, Embodied AI, Multimodal Models, World Models, Robotics, Reinforcement Learning

PUBLICATIONS

FoldNet++: a Large-Scale Synthetic Dataset for Robotic T-Shirt Folding and Unfolding

Yuxing Chen*, **Zhiyuan Wei***, Bowen Xiao, Zhizheng Zhang, He Wang.

Conference on Robot Learning (CoRL), 2026.

A Systematic Study of Zero-Shot Cross-Embodiment Transfer in Vision-Language-Action Models

Mi Yan, Wenhao Zhang, Zhiqi Zhang, Yu Peng, Tangxinyu Wang, Lingfei Zhai, Jiayi Su, Shengliang Deng, Lin Peng, Yaowei Liu, Yuxing Chen, **Zhiyuan Wei**, Jilong Wang, Jiayi Chen, Jiangran Lyu, Zhizheng Zhang, He Wang.

Conference on Robot Learning (CoRL), 2026.

RESEARCH EXPERIENCE

Research Intern, PKU-GALBOT Embodied AI Joint Laboratory

Jun 2025 – Present

Supervised by Prof. He Wang Collaborator: Yuxing Chen

- Led sim-to-real adaptation studies for long-horizon cloth manipulation, investigating how synthetic and real-world data composition affects the generalization and robustness of VLA policies on real robots.
- Identified a counter-intuitive degradation from synthetic-only training (9/10 success) to naive synthetic-real fine-tuning (6/10), and attributed the failure to behavioral distribution mismatch between synthetic rule-based trajectories and human tele-operation demonstrations.
- Designed FTRD-Grasp, a targeted real-data fine-tuning strategy that incorporates pre-grasp segments while preserving the synthetic policy's long-horizon behavior distribution, recovering task success to 9/10 and reducing average execution steps from 626 to 458.
- Conducted systematic failure analysis of long-horizon real-robot deployment, identifying repeated grasp failures, error accumulation, and synthetic-real distribution mismatch as key bottlenecks, motivating data-centric strategies for improving policy robustness.
- Contributed to a systematic study of zero-shot cross-embodiment transfer in VLA models by developing the closed-loop ARX deployment pipeline, enabling evaluation of pretrained policies across heterogeneous robot embodiments.
- Built key components of the sim-to-real experimental pipeline, including diverse simulation assets for large-scale synthetic data generation, tele-operated real-world demonstration collection, and closed-loop VLA deployment and evaluation on Galbot/ARX platforms.

TECHNICAL SKILLS

Computer Skills: Python, PyTorch, C/C++, Assembly Language, Latex

Simulators: Mujoco, Style3D

Languages: Chinese Mandarin (native speaker), English (proficient), French (beginning)

EXTRACURRICULAR ACTIVITIES

Sports: Badminton, Jogging, Swimming