

WEIHENG WANG

✉ utkps@student.kit.edu · ☎ (+86) 15210117985 · in Wang Weiheng

🎓 EDUCATION BACKGROUND

Karlsruhe Institute of Technology, Karlsruhe 2024 – Present

Master's Student Mechatronics Engineering, Expected Graduation: March 2026

Zhejiang University, Hangzhou 2018 – 2022

Bachelor's Degree Control Science and Engineering

👥 INTERNSHIPS / COURSE PROJECTS

Multimodal Alignment in Foundation Models, Karlsruhe September 2024 – Present

Literature Review Lab: H²T / Supervisor: Tamim Asfour

Conducting a literature review on the application of multimodal alignment in foundation models from the perspectives of model structure and modality types.

- Understanding the current frontiers of multimodal alignment research
- Currently working on a survey paper on multimodal alignment

Task Planning Based on Affordance using VLM, Karlsruhe September 2024 – Present

Course Experiment Lab: H²T / Supervisor: Tamim Asfour

Improving affordance-based task planning using LLMs based on the existing AutoGPT+P framework, incorporating multimodal fusion.

- Describing planning domains and problem instances using PDDL
- Using VLM to directly extract scene information and affordance from images
- Next phase: fine-tuning the model to enhance multimodal alignment

Assembly Operations using 3D Diffusion Policy, Karlsruhe September 2024 – Present

Course Experiment Lab: ALR / Supervisor: Gerhard Neumann

Training policies for single-arm assembly operations using 3D diffusion policy.

- Demonstrating operations using the Aloha robotic arm and conducting simulations in IsaacLab
- Adding a wrapper for collected data and training the model

Reproducing and Improving OpenVLA, Karlsruhe (Remote Collaboration) September 2024 – December 2024

Research Assistant Lab: HUST, SKL-IMET / Collaborating PhD: Jing Tang

Reproducing OpenVLA and replacing the backbone to make the model lightweight.

- Collecting literature on VLA research and summarizing the latest research directions
- Replacing InternVL with PrismaticVLM as the new backbone

Humanoid Robot Gait Algorithm, Karlsruhe April 2024 – July 2024

Course Experiment Lab: KIT BioRobotics Lab / Supervisor: Katja Mombaur

Generating legged robot gaits using reinforcement learning and MPC methods.

- Training gait generation using reinforcement learning in Isaac Gym
- Training gait generation using the MPC algorithm in Gazebo