

Qixuan (Keeron) Huang

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EDUCATION

Georgia Institute of Technology

(Expected) May. 2028

- Master of Science in Robotics (ECE Home School)

University of Illinois Urbana-Champaign

Jun. 2026

- Bachelor of Science in Computer Engineering

Zhejiang University

Jun. 2026

- Bachelor of Engineering in Electrical and Computer Engineering

TECHNICAL SKILLS

Programming: Python, C/C++ , Bash, Assembly (RISC-V)

Robotics & ML: PyTorch, CUDA, ROS, MuJoCo, SAPIEN, Open3D

Systems & Tools: Linux, Git, Docker, GDB, Arduino

RESEARCH EXPERIENCE

RecoverTwin: Train-Free Failure Recovery for Dual-Arm Manipulation

Advisor: *Liangjing Yang*

Nov. 2025 – May. 2026

- Designed and implemented a train-free recovery supervisor for frozen dual-arm policies on RoboTwin 2.0, detecting grasp failures and executing 6-DoF recovery actions via inverse kinematics without retraining the base policy.
- Integrated the recovery supervisor with both imitation-learning and vision-language-action policies through a shared robot-state/action interface, enabling cross-policy deployment without modifying base-policy weights.
- Evaluated paired $N = 100$ trials across task-scene configurations, improving randomized-scene success by **+19 pp** on `shake_bottle` with an IL policy and **+13 pp** on `hammer` with a VLA policy.

Human-Centered Autonomy Lab

Advisor: *Katie Driggs-Campbell*

May. 2025 – Sept. 2025

- Benchmarked 3D Diffusion Policy and explored ACT-based dual-arm manipulation on RoboTwin 2.0, focusing on the `lift_pot` task and coordination-related failure modes.
- Modified simulation and evaluation workflows for repeated bimanual policy rollouts, debugging data flow across multi-view RGB observations, robot proprioception, and action trajectories.

CVNext Lab

Advisor: *Gaoang Wang*

Jun. 2023 – Sept. 2024

- Built and automated an end-to-end geospatial data pipeline for the CityCraft-OSM and CityCraft-OSM-Satellite datasets, spanning OSM download, coordinate conversion, semantic-mask generation, satellite-image matching, and Blender scene processing.

PROJECTS

Dual-Arm Robotic Rubik's Cube Solver

Jan. 2026 – May. 2026

- Implemented the core software and control stack linking the Kociemba two-phase solver to a MuJoCo dual-arm controller, translating Singmaster moves into clamp, reorientation, and layer-turn primitives.
- Engineered finite-state manipulation logic to track cube orientation, select reachable gripper configurations, and reorient the cube when requested layers were inaccessible from the fixed dual-arm geometry.
- Interfaced MuJoCo-generated motion primitives with Arduino-based actuator control and validated end-to-end execution of a $R \ U \ R' \ U'$ sequence through 36 low-level commands.

HyperGemini: Lane Following and Auto-Parking Module

Jan. 2025 – May. 2025

- Developed lane-following and parallel-parking control modules for a simulated Polaris GEM vehicle in ROS, translating planned waypoints into steering and velocity commands.
- Tuned nonholonomic path-tracking and parking maneuvers for final-pose alignment and collision clearance across simulated driving scenarios.