

Chong Li

chongl2@andrew.cmu.edu | +1 734 834 9380 | github.com/Manelich1107 | Pittsburgh, PA

Robot Learning • Multimodal Intelligence • Whole-Body Humanoid Systems

Education

Carnegie Mellon University, Pittsburgh, PA

M.S. in Mechanical Engineering, Research Track

Aug 2026 - May 2028 (expected)

University of Michigan, Ann Arbor, MI

B.S.E. in Mechanical Engineering; GPA: 3.819/4.0; University Honors; Dean's List

Sep 2024 - May 2026

Shanghai Jiao Tong University, Shanghai, China

B.S. in Electrical and Computer Engineering

Sep 2022 - Aug 2026

Robot Learning & Embodied Intelligence

Robotics Research Intern

Shanghai Institute for Physical Artificial Intelligence and Robotics (PAIR), Shanghai, China

May 2026 - Present

- Implemented a reliability and safety layer spanning 10K+ lines across 24 files for a dual-FR3 imitation-learning stack: one-command ROS 2 collection/deployment supervision, GELLO homing, safe-start alignment, quintic action limiting, rollout auditing, and LeRobot dataset-quality repair, with automated tests and bilingual operator documentation.
- Led task formulation and most demonstration collection for a five-level P-L-G benchmark spanning precision, long-horizon execution, and generalization; expanded each evaluated task from approximately 50 to 100 demonstrations using dual GELLOs and three RealSense cameras.
- Trained and deployed ACT and Diffusion Policy for 500,000 optimization steps per task on NVIDIA A100 GPUs; compared W&B learning behavior with physical-robot rollouts and diagnosed action-continuity and long-horizon failure modes.

Undergraduate Thesis | Whole-Body Humanoid VLA System for Unitree G1

IRMV Lab, Shanghai Jiao Tong University | Advisors: Hesheng Wang and Yunlong Guo

May 2026 - Aug 2026

- Co-developed an auditable multi-rate stack coupling Isaac-GR00T N1.7 through a motion-target bridge to SONIC whole-body control; measured 208.15 ms Orin inference while sustaining a 49.9 Hz control loop, and validated physical-G1 WBC teleoperation and communication readiness.
- Diagnosed recording-induced control stalls as CPU H.264 contention and migrated video encoding to the Jetson hardware engine, reducing LowState age from a 67.4 ms peak to approximately 22 ms without changing the LeRobot data contract; implemented source-aware VR-3PT wrist calibration and rotation composition.
- Collected 121 ego-view Transfer demonstrations; contributed to a five-person team dataset of 221 episodes / 307,383 frames, 20,000-step module-level partial fine-tuning, and a 148-trial MuJoCo benchmark across Transfer, Handover, Drawer, and Pickup.

Additional Research

Research Assistant | 3D Scanning & Machine Learning

Shao Lab, University of Michigan | Advisor: Chenhui Shao

May 2025 - Aug 2026

- Built Zivid 2+ MR60 and eviXscan Quadro+ metrology workflows for geometric-defect detection using plane-fit RMSE and volumetric-difference metrics; contributed to an accepted MSEC 2026 poster and received the Best Reproducibility Award at the U-M Data Science & AI Summit 2025.

Wireless Rover & Reservoir Computing Team

Mapleseed Team, University of Michigan | Advisor: Xiaogan Liang

Jan 2025 - Dec 2025

- Developed an indoor exploration rover integrating stair-climbing mechanics, RPLIDAR, encoder feedback, motor control, UDP communication, visualization, and preliminary point-cloud odometry.

Selected Systems & Control Work

- UM Solar Car: reconstructed ADAMS/CarSim chassis models and built a MATLAB-CarSim yaw-control co-simulation comparing seven steering-correction families over 800 double-lane-change runs; Flexible Shaft Control: designed and experimentally validated a lead-lag controller for resonance suppression.

Technical Skills

Robot Learning: PyTorch, LeRobot, ACT, Diffusion Policy, Isaac-GR00T, imitation learning, policy deployment, W&B, Hugging Face

Robotics Systems: Python, C/C++, ROS 2, ZMQ, MuJoCo, Linux, Docker, real-time data collection, distributed GPU training

Platforms & Sensing: Franka FR3, Unitree G1, GELLO, PICO 4 Ultra, RealSense, RPLIDAR, STM32, Zivid 2+ MR60, eviXscan Quadro+

Modeling & Control: MATLAB, Simulink, ADAMS, CarSim, SolidWorks, Siemens NX, point clouds, feedback control