

CHENGGONG (EDWIN) LIU

Robotics Software Engineer

ROS 2 policy execution and embodied perception | Available Dec 2026

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Graduate candidate building ROS 2 policy runtimes, RGB-D perception and asynchronous inference systems. Focuses on synchronized observations, episode isolation, cancellation and reproducible simulation evaluation.

ROBOTICS PROJECTS

PolicyBridge-ROS2

2026

Python / ROS 2 Actions | [Project](#)

- Built a ROS 2 Action runtime with synchronized RGB/joint observations, bounded backend admission, cancellation and timeout handling, and isolation of late inference results.
- Repaired diagnostic-failure finalization and snapshot expiry; **206 CPU tests passed**. Validation of this repair in ROS 2 and on physical robots remains pending.

ActionStream

2026

Python / LeRobot / asynchronous inference | [Source \(private\)](#)

- Built a LeRobot-compatible asynchronous policy runtime with episode-owned queues, cancellable process transport and revision-tagged action delivery; repaired **11 reproduced lifecycle failures** and added native X-VLA/LIBERO development tooling.

PoseLoop

2026

Python / PyTorch / RGB-D perception | [Project](#)

- Integrated Mask R-CNN and FoundationPose for RGB-D/CAD evaluation, completing **820 registrations on 25 development frames**; detector F1 **0.726** and joint F1 **0.606** use a custom protocol.

RELEVANT EXPERIENCE

IMMRSIV

Jun 2026-Present

Engineer Intern, Simulation Software and Digital Twin | Singapore

- Develop asynchronous loading, shared cache/upload budgets and multi-camera sensor paths, with GPU culling, indirect rendering and repeatable validation.

TECHNICAL SKILLS

Robotics and ML: Python, PyTorch, ROS 2 Actions, LeRobot, ManiSkill, ACT, RGB-D, FoundationPose

Systems: C#, Unity, asynchronous inference, timestamp synchronization, fault injection, Git, CI

EDUCATION

National University of Singapore

Expected Dec 2026

M.Sc. Biomedical Engineering

Shanghai Jiao Tong University

Sep 2020-Jun 2024

B.Sc. Bioinformatics; Minor in Applied Psychology

Languages: Mandarin (native); English (professional; IELTS 7.5)