Linfeng Chen

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SUMMARY

Robotics engineer with six years in embedded AI and robotics in Tokyo. I lead the architecture of a next-generation store robot built from scratch, and lead 15+ software engineers; my 5-person robot software team built the whole system. Results: intervention rate down 90%, new-store setup time down 89%. I work AI-first, with coding agents as part of the daily workflow, and still go hands-on for field debugging and tuning.

EXPERIENCE

Chief Engineer, Robotics · MUSE Inc.

2023.05 — present

Intervention rate −90% · new-store setup time −89%

Technical lead, next-generation robot system

2026 — present

- Lead 15+ software engineers. The 5-person robot software team I lead directly built the entire robot system.
- Designed and built a new robot system from scratch: hardware abstraction, control, perception, decision-making and cloud operations.
- Designed a platform architecture built for modular units, so the same AMR can keep growing into new modules and capabilities.
- Built end-to-end simulation in Gazebo and Isaac Sim, automatic cart attach and detach, and route planning.

Motion control and obstacle avoidance (approved side job while at Renesas)

2023 — 2025

- Motion planning (SLP, DWA, Hybrid A*) and control (MPC, cascaded PID, motor torque control), tuned on real robots.
- Obstacle avoidance, soft stop and robot REST/gRPC services.

Staff Application Engineer · Renesas Electronics

2022.09 — 2026.03

- Built test and profiling frameworks for AI inference engines and benchmarked models across microcontrollers.
- Developed the RAI framework, optimized edge-AI acceleration code and built AI applications for Renesas MCUs.

Embedded AI Software Engineer · QuantumCore Inc.

2020.04 — 2022.08

- Designed fast, lightweight algorithms for low-spec embedded devices.
- Researched algorithms for radar, IR-LED and microphone sensors, and built prototypes and tools.

LEADERSHIP & COLLABORATION

- Lead the 5-person robot software team: set priorities, review designs and code, and grow engineers.
- Defined module interfaces and event-code conventions so engineers on control, perception, decision and cloud could build in parallel.
- Built a shared dev image, CI and simulation so new members can build, test and simulate with one command.
- Introduced spec- and ADR-driven development to record design trade-offs and cut hand-over by word of mouth.
- Visit a store every week with the engineers, and work with store operations, hardware and cloud teams to turn field feedback into verifiable improvements.

SKILLS

Control & planning: MPC · LQR · PID · SLP · DWA · Hybrid A* · Motor torque control

Perception: BEVFusion · LiDAR · ArUco · OpenCV · ONNX Runtime · NPU

Systems: Rust · C++ · Python · TypeScript · ROS 2 · Zenoh · Gazebo · Isaac Sim · Foxglove · Podman · GitHub Actions · AWS

AI-assisted engineering: Claude Code · coding agents · Spec- and test-driven work with AI · AI-assisted review and docs

EDUCATION

Tohoku University 2018 — 2020
Master's · Human–Computer Interaction

Jilin University 2013 — 2017
Bachelor of Engineering · Computer Engineering

LANGUAGES & CERTIFICATES

Chinese: Native · Japanese: JLPT N1 · English: TOEIC 805 · Statistics Certificate Grade Pre-1 (Japan)