

Kieran Cheung

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Embedded systems and software engineer with experience in real-time systems, firmware development, and embedded Linux. Focused on building reliable, efficient systems across hardware–software boundaries.

Education

University of Leeds – MEng, Mechatronics and Robotics

July 2024

Skills

Languages: C, C++, Rust, Python, Bash

Technologies: Embedded Linux, Yocto, Zephyr RTOS, FreeRTOS

Tools: Git, Docker, GDB, CMake, OpenOCD

Additional: Kubernetes, Jira, GitHub, Tmux, Vim

Experience

Embedded Software Engineer, Nethermind

Mar 2025 – Present

- Led software development for biometric palm-scanning device; delivered features under tight deadlines for demos, funding pitches, and public events, contributing to £1.5M in non-dilutive funding
- Implemented real-time biometric processing pipeline, reducing latency from ~100ms to <33ms (3× improvement)
- Helped align machine learning, electronics, and web teams to deliver an integrated system
- Replaced ad hoc build processes and Python application with a deterministic Yocto-based system and compiled languages (C/Rust), improving reproducibility, reliability, and performance
- Adapted machine learning models for deployment on embedded hardware, balancing latency and accuracy

Embedded Software Engineer, Centre for Process Innovation

Aug 2024 – Mar 2025

- Led development of a lateral flow assay scanner for early detection of respiratory disease flare-ups
- Developed scanner firmware for STM32 using C and FreeRTOS, complete with an embedded GUI to guide users through the test process
- Led development of web platforms (Rust, PostgreSQL, React) enabling clients to monitor and analyse user data
- Implemented embedded C unit testing (Unity framework) as part of CI/CD, reducing the rate of regressions and increasing PR quality

Embedded Software Engineer (Part-time), Ademen Ltd

Oct 2023 – July 2024

- Built production-ready firmware for a ‘wireless stethoscope’ that streams audio and accelerometer data to monitor bowel health, supporting grant applications and clinical trial preparation
- Implemented a performant, low power audio pipeline (embedded C) using Zephyr RTOS on a Cortex-M4 based SoC
- Collaborated with ML engineers to develop tools for recording and analysis, supporting model improvements

Embedded Software Engineering Intern, Centre for Process Innovation

Jul 2022 – Sept 2023

- Built an embedded Linux robotic system for automated treatment of bioactive textiles, including a Qt6 GUI
- Implemented low-power firmware in embedded C for control of a heated therapeutic wearable device
- Implemented device drivers for integrated circuits using low-level protocols such as SPI and I²C
- Performed hardware debugging using oscilloscopes and logic analysers to validate embedded firmware behaviour

Personal Projects

Terrain Generator

kcstuff.com/blog/procedural-generation-bevy

- Built procedural terrain generator in Rust using Perlin noise. Includes simulated biomes and river systems.

Activities

- Programming challenges · Web game development · System customisation (NixOS, Neovim) · Rock climbing