

Thamaraimanalan M

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EXPERIENCE

Project Intern

Feb 2025 – Jun 2025

FOSSEE, IIT Bombay

[Report link](#)

- Developed a cross-platform GUI for OpenModelica using Qt Framework.
- Collaborated with the FOSSEE team to improve OpenModelica's usability and performance.
- Enhanced the Qt/Python GUI's functionality and performance for OpenModelica's specific simulation and model selection processes.

PROJECTS

Linux Device Drivers [GitHub](#)

Aug 2025 – Present

- Built a custom Linux kernel from source and created a minimal root filesystem with a custom init process. Successfully booted the environment using QEMU.
- Developed a simple procs driver module and currently exploring advanced kernel helper functions and char driver implementation.

WifiJammer Script [GitHub](#)

May 2024 – Present

- Developed a automated script to jam the WiFi access point written in Bash scripting as well as in Python.

Smart Traffic Management [GitHub](#)

Oct 2024 – April 2025

- Developed an embedded system prototype utilizing deep learning (YOLO) on Hailo 8L to detect and prioritize emergency vehicles, reducing response time via automated signal control (Raspberry Pi integration).

Project.Eye [GitHub](#)

Feb 2025 – Present

- Built an edge AI powered wearable assistive system for the visually impaired, utilizing Python, Raspberry Pi, Moondream VLM to enable real-time image capture, processing, and audio feedback via a headset.

CERTIFICATIONS & ACHIEVEMENTS

Qt-Athon 2024 — Global Coding Competition

Secured 3rd place for a desktop application developed with Qt Quick (QML) and C++.

[Check Blog](#)

Embedded Systems and Linux kernel Course by Pyjamabrah

Currently diving deep into low level, system software and firmware.

[Certificates](#)

NXP AIM 2025: Regional Finalist

Developed an autonomous mobile robot using ROS2, Gazebo, and SLAM for a robotics competition.

[Certificate](#)

TechForSociety Hackathon by Siemens and Nasscom foundations

Shortlisted for innovative smart traffic management system.

TECHNICAL SKILLS

Languages: C, C++, Python, Bash Scripting, RISC-V32I ASM (Learning).

Operating Systems & Kernel: Linux, Linux Kernel Development, Device Driver Development (Learning).

Coursework: Computer Networks (TCP/IP, UDP), Embedded Systems and Embedded operating systems.

Frameworks & Libraries: Qt, PyQt6 & PySide6.

Developer Tools: Git, GitHub, VS Code, Docker, Multipass, GDB.

Embedded Systems: Raspberry Pi 5, Hailo 13 TOPS.

SOFT SKILLS

- Collaborative Teamwork • Effective English Communication • Project Management

EDUCATION

Government College of Technology

Coimbatore, IN

Bachelor of Electronics and Communication Engineering (Final Year)

2022 - 2026

Cumulative GPA: 7.9 (up to Semester 6)