

Amritanjali

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Summary

Embedded Systems Enthusiast | Ex-Google & Microsoft | C/C++ | RTOS | Linux

Software engineer with 3+ years of experience at Google and Microsoft, now actively transitioning into embedded systems. Strong foundation in C/C++, Linux internals, and hardware-software interfacing. Self-taught in embedded systems with hands-on projects using RTOS, I2C, I3C, Timer IPs and device driver development. Looking to apply my systems knowledge to driver development and low-level firmware roles.

Skills

Embedded Systems: C, C++, Linux internals, HSI2C, I3C, Zephyr RTOS, GPIO, Timers

System Tools: GDB, Git, Logic Analyzer, Trace32 debugger

Programming Languages: C, C++, Java, Python, TypeScript

Web: Angular, React, Node.js, Spring Boot, .NET

ML/CV: OpenCV, TensorFlow, Optical Flow, ConvLSTM

Experience

- Software Engineer II
Google, GCP – Bangalore, India
Sep 2022 – Feb 2025
 - Led full-stack development for observability tools in Google Cloud Console, with a strong focus on system reliability and latency-critical services.
 - Built internal tooling to debug system-level performance issues, working in close coordination with teams handling Linux-based infrastructure.
 - Leveraged C++ in performance-critical modules and contributed to low-level debugging scripts interacting with Linux APIs and metrics.
 - Independently worked on understanding and building proof-of-concept Linux character drivers during 20% time.
 - Owned CNQ (Cloud Networking Query) tool end-to-end; collaborated with SREs to enhance networking observability.
 - Tech Stack: Angular, Java, C++, Linux, Shell scripting

- Software Engineer
Microsoft Azure – Bangalore, India
Sep 2021 – Aug 2022

- Contributed to Microsoft Cloud Solution Center as a full-stack developer, improving integration of APIs and infrastructure analytics.
- Gained hands-on experience with Linux CLI tools and monitoring scripts for telemetry data aggregation.
- Engaged in internal hackathon where I built a UART-based debug log viewer for embedded test boards.
- Tech Stack: React, Java, .NET, Linux CLI, C++ (side tools)

Projects (Embedded Systems)

- Linux Character Device Driver | Personal Project (2024)
 - Developed a Linux kernel module for Raspberry Pi to control GPIO via character device.
 - Implemented open, read, write, and ioctl calls; tested using custom user-space C application.
- RTOS-based Sensor Logger
 - Built a real-time logger on STM32 board to capture temperature/humidity via I2C and UART.
 - Used FreeRTOS tasks and semaphores to log data and print to console reliably.

Education

Sant Longowal Institute of Engineering and Technology, Sangrur, Punjab
B.Tech in Electronics and Communication Engineering — CGPA: 8/10 (2017 – 2021)