RAHUL KRISHNAN

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LinkedIn | Tech-Blog

Embedded Software Engineer | Automotive/Medical Systems Developer

Dynamic Embedded Software Engineer with 2.5+ years of experience specializing in automotive infotainment systems, embedded Linux, and driver development. Expertise in display driver integration, CarPlay projection, and hardware protocols like UART and I2C. Adept at collaborating in Agile environments, managing CI/CD pipelines, and delivering solutions that enhance performance and reliability.

EXPERIENCE

Software Engineer (Consultant) | GE HEALTHCARE, Bengaluru, India   **March 2025 – Current**

- Fixed HDMI audio startup glitch on **imx6** (NXP MPU) by developing a custom **ALSA** application from scratch,
- Enhanced audio playback reliability in AHB based HDMI DRM driver by developing FIFO priming mechanism and increasing DMA buffer size to meet pipeline timing constraints.
- Optimized the RTC driver for Medical ARC system and addressed the 2038 Year problem.

Sr. Software Engineer | TATA ELXSI, Kerala, India   **September 2022 – Jan 2025**

- Developed DRM **Display drivers** GPIO monitoring mechanism using workqueue on Qualcomm automotive IVI boards.
- Extended Weston compositor capabilities to support automotive **multi-display** configurations.
- Leveraged **UART** and **I2C** protocols for seamless HUD and RSE display communication.
- Developed a Wi-Fi diagnostic application using **nl80211** interface for 5GHz/6Ghz band.
- Performed real-time memory analysis using **J-Link debugger** to resolve kernel panic.
- Delivered **CarPlay projection** integration for American off-road vehicles, enhancing IVI usability.
- Resolved complex **debugging** challenges, reducing hardware interface issues through effective collaboration and **problem-solving**.

SKILLS

- Programming: C/C++, Embedded C, Linux Kernel Development
- Tools and Platforms: JIRA, Git, Yocto Build Systems, JLink, Platform I/o, keil, Proteus
- Protocols: UART, I2C
- Methodologies: Agile
- Specialties: Linux Device Drivers, Bootloader, ALSA, Audacity, Automotive IVI Projection, Debugging

EDUCATION

Trivandrum, India   **2018 – 2022**
- **B. TECH** Graduate – Sree Chitra Thirunal College of Engineering (Kerala Govt. College)
- **CGPA – 9.26 (Batch Topper/Rank - 1)**

AWARDS & RECOGNITIONS

- Aluminum-Air Battery Optimization: - Proposed and designed an efficient aluminum-air battery prototype, reducing degradation rates and optimizing electrolyte performance. Collaborated with **CSIR scientists** to enhance overall efficiency.
- Successfully led a team of colleagues in executing comprehensive tasks.
- Trained in C Programming for Embedded Applications (LinkedIn Learning)
- GitHub Professional Trained
- Trained in Software Development Essentials (Microsoft & LinkedIn)
- Embedded Machine Learning Trained (Edge Impulse)