

RAJESH MALLEMPATI

Mobile: +91- 6302566372 | E-Mail: rajeshmallempati0112@gmail.com

LinkedIn URL: www.linkedin.com/in/rajesh-mallempati-6984901ab/

EMBEDDED SOFTWARE ENGINEER

2+ YEARS OF EXPERIENCE

□ SUMMARY

- **Highly-focused technocrat** with proven excellence in embedded linux development, and secure system design
- **Extensive experience** in kernel debugging, device driver development, and BSP validation across various architectures.
- **Proficient** in ISAR, Yocto, based build system for integrating and bug fixing for associated software components
- **Skilled** in device driver development, kernel debugging, and data structures & algorithms, with expertise in security hardening measures like SELinux and IMA to enhance OS stability and integrity.
- **Quick learner, adaptable, and flexible to technological developments and trends.**

□ SKILLS

- ISAR | Yocto | Device Drivers | SELinux | IMA | Embedded Linux | Linux kernel | git | Kernel porting | Debugging | Debianization
- C++ | Linux OS | Kas container | Lava | Data structures and Algorithms | UART | Device Tree | SQL | shell scripting | Encrypted-fs | Secure Boot | OverlayFS | Lava | Embedded systems
- **Tools:** JIRA, Confluence, Jenkins, Lava, Arduino IDE
- **Security Measures:** Defining policies for SELinux and IMA features
- **Embedded Linux BSP validation:** Lava, Sanity checks

□ EXPERIENCE

Embedded Software Engineer

SIEMENS ----- Jan 2023-Present

Project: - Siemens Industrial OS

Description: Build customized Debian based operating system for HMI panels

Responsibilities:

- Worked on ISAR embedded build system for embedded systems to develop, integrate, and fix bugs in associated software components across various architectures. Proficient in adding new BSP in ISAR, yocto
- Implement IMA and SELinux security measures for Siemens HMI devices and x86 server platforms
- Worked on a Proof of Concept (PoC) for kernel porting, gaining experience in kernel configuration, debugging, and ensuring compatibility for open-source driver support.
- Performed back porting of graphic utilities from Debian 12 to Debian 11 for stability validation and performance assessment.
- Provided customer support for diagnosing and resolving hang issues on HMI panels, ensuring timely resolution and system stability.

Project: - Service Project

Description: BSP board bring up for customized imx8mmevk board

Responsibilities:

- Device driver development for device drivers, implementing features like focus control and fixing stability issues.
- Kernel debugging to analyze and resolve bugs in embedded Linux systems
- Designed user-space C applications to facilitate interaction with the camera driver.
- Worked with Yocto Poky build system to configure and customize ubuntu based embedded Linux distributions.
- Contributed to LAVA test automation by creating new test suites and resolving bugs in automated testing frameworks.
- Conducted embedded Linux BSP validation to ensure hardware compatibility and system reliability.

▣ QUALIFICATION

Bachelor of Engineering (B.E.) in Electronic and Communication Engineering
Vasavi College of Engineering, Hyderabad

Aug 2019 - Jul 2023
GPA: 9.11/10.0

Intermediate in MPC stream
Krishnaveni Junior College, Khammam

Jul 2017 - May 2017
Percentage: 97.2

Schooling
Sri Vivekananda Vidyalayam

May 2017
GPA: 9.8/10

▣ Academic Projects

INMOOV head

Python , NLTK , Servo , Raspberry pi, SMTP

- The project involves creating a head rotation system that responds to the sound and answer basic user queries similar to a chatbot
- Designed this project to help students easily access basic information about the college infrastructure.

Laser Counting System

Arduino

- The project aims to accurately count the number of people present in the room

▣ Achievements

- Secured 91% in the NPTEL: The Joy of Computing Using Python exam.
- Maintained a 500+ day problem-solving streak on GeeksforGeeks and LeetCode Problem of the Day