

# Siddu Penchal Raju

## Embedded Engineer

Mobile No: +91 7075466562

Email ID: [siddupenchalraju1@gmail.com](mailto:siddupenchalraju1@gmail.com)

Gained hands on experience in Embedded Software Development with a good exposure in Board Support Package which includes configuration and compilation of Kernel, Device Tree and Yocto RFS, porting and board bring up.

## **EXPERIENCE**

### **Elcom International India Pvt Ltd.**

January 2025 - Present

**Role:** Embedded Engineer

Pune, Maharashtra

#### **Responsibilities:**

- Setup and customized the Buildroot project for embedded Linux deployment.
- Adding the Board Support Packages
- Integrated Board Support Packages (BSP) tailored to the hardware platform.
- Developed and tested APIs and utilities for application-level features.

### **Mckinley & Rice Creativity Pvt Ltd.**

June 2024 – January 2025

**Role:** Assistant Embedded Engineer

Bangalore, Karnataka

#### **Responsibilities:**

- Setup and Build the CanMV K230-SDK.
- Performed embedded Linux porting and device driver customization.
- Collaborated with hardware teams for system bring-up and peripheral testing.

### **SBCS India Pvt Ltd.**

March 2023 – June 2024

**Role:** Embedded Systems Engineer

Bangalore, Karnataka

#### **Responsibilities:**

- Designed, developed, and implemented firmware to support embedded system product concepts.
- Created and optimized low-level drivers for communication protocols, including I2C, UART.

### **Q Conneqt Business Solutions Ltd.**

Sept 2021 – May 2022

**Role:** Customer Service Associate

Bangalore, Karnataka

#### **Responsibilities:**

- Provided customer support via phone, email, and chat.
- Documented and escalated unresolved issues for resolution.
- Ensured timely and professional handling of customer concerns.

## **Projects**

### **1. IoT-Based Temperature and Humidity Monitoring System**

**Hardware:** STM32, RB-A5D2X, AHT25 Sensor, WE10 WiFi Module

#### **Description:**

Developed an IoT-based temperature and humidity monitoring system for various applications including home automation. Integrated the STM32, RB-A5d2x and AHT25

sensor to measure temperature and humidity levels.

**Role & Responsibilities:**

- Developed embedded firmware using STM32Cube.
- Integrated AHT25 sensor and WE10 module over I2C/UART.
- Enabled WiFi-based data transfer for remote monitoring.

**2. Standalone Kernel Development**

**Hardware:** phyCORE-AM57xx

**Description:**

Upgraded Linux Kernel from v4.19.79 to v5.10.168 for PHYTEC's AM57xx board. Integrated board support, validated patches, and ensured stable migration.

**Role & Responsibilities:**

- Build the linux kernel source code.
- Debugged DTS changes and performed regression testing.
- Verified peripheral and driver functionality after each upgrade stage.

**3. Human Detection Application**

**Hardware:** CanMV K230 AI SoC, OV5647 Camera

**Description:**

The human detection application detects people in the video and marks them on the screen with detection boxes.

**Role & Responsibilities:**

- Setup and Build the CanMV K230-SDK.
- Configured MIPI-CSI interface for OV5647 camera on K230.
- Displayed bounding boxes on video frames in real time.

**4. CLI-Based CLISH for PDU System**

**Hardware:** Microchip SAMA5D27-SOM1

**Description:**

Designed a secure Command Line Interface Shell (CLISH) for configuring and monitoring PDU system parameters on Microchip SAMA5D27-based platform. Supported structured XML commands with role-based access.

**Role & Responsibilities:**

- Setup and customized the Buildroot project for Microchip SAMA5D27-SOM1.
- Defined CLI command hierarchy using XML schema.
- Integrated CLISH with embedded Linux system.
- Developed and testing to execute the CLISH commands.

**Technical Skills**

- C Programming
- Knowledge on CommunicationProtocols – UART, I2C and SPI.
- Telnet and SSH.
- Embedded Linux porting

- LinuxDevice Drivers,
- Yocto Project, Buildroot
- xml and JSON
- Working experience in Source code management tool – Git.
- Good analytical and debugging skills.

**Education**

- B.Tech – Electronics and Communication Engineering, Andhra Engineering College, Atmakur – 2015 to 2019
- Intermediate (12th) – Gowtham Junior College, Badvel – 2015
- SSC (10th) – Z.P. High School, Kaluvapalli – 2013