

# Ramagiri Madava

## Embedded Systems Engineer

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### Profile

Embedded Hardware Engineer with expertise in embedded systems, IoT, and EV charger development. Skilled in C++, Python, firmware design, and cloud monitoring, with experience in real-time deep learning applications. Strong problem-solving abilities in hardware-software integration and system optimization.

### Areas of Expertise

Microcontrollers and Microprocessors - Embedded C/C++ Programming - Real-Time Operating Systems (RTOS) - Embedded Linux - Communication Protocols (SPI, I2C, UART, etc.) - IoT and Connectivity - Firmware Development and Optimization - Security in Embedded Systems - Hardware-Software Integration - Deep Learning AI on Edge Devices - Power Electronics Energy Metering - Debugging Troubleshooting - Cloud-Based Data Monitoring Analytics

### Professional Experience

**Embedded Hardware Engineer, (Ecologue Automation)** **Hyderabad** 06/2024 - 11/2024

- Ensured efficient operation and maintenance of single-phase and three-phase EV chargers.
- Developed and optimized firmware for EV chargers, including debugging and performance enhancements.
- Diagnosed and resolved technical issues, ensuring minimal downtime and improved reliability.
- Managed and updated cloud-based dashboards for real-time monitoring and analytics of EV charger performance.
- Performed physical installation, wiring, and connections for EV charging devices.
- Designed and implemented firmware updates to improve charger functionality and performance.
- Provided technical support and training to customers for efficient use and troubleshooting of EV chargers.

**Multi-Skilled Technician, (Sodexo Facilities and Management (Client: Qualcomm) ) Hyderabad** 12/2021 - 02/2023

- Operated and maintained HT LT electrical systems, including SF6, VCB, ACB, MCCB, MCB, RCCB, and ELCB.
- Developed and managed PPM (Planned Preventive Maintenance) schedules.
- Diagnosed and repaired electrical breakdown issues to minimize downtime.
- Coordinated Annual Maintenance Contract (AMC) activities with external vendors.
- Maintained DBs (Distribution Boards) and LT panels through regular inspections.
- Created and updated history cards for electrical equipment to track performance and maintenance.

### Projects

- Traffic Sign Detection on Jetson Nano Using YOLOv8 Deep Learning Model* 2022-2024

  - Developed a real-time traffic sign detection system using YOLOv8, deployed on NVIDIA Jetson Nano for low-latency detection.
  - Applied data augmentation techniques to improve model accuracy and robustness.
  - Contributed to safer autonomous navigation by enhancing sign recognition efficiency.
- Cattle Monitoring Device Using IoT* 2022-2024

  - Designed a cattle health monitoring system utilizing ESP32 and multiple sensors.
  - Implemented real-time data visualization on RoboLab cloud.
  - Programmed in C and C++ for efficient sensor communication and seamless cloud integration.
- Wireless Industrial Security System for Factories* 2018-2021

  - Developed a factory security system using RF transmitters, RF receivers, and Arduino Uno.
  - Implemented real-time monitoring and alert mechanisms for enhanced security.
- Mini Hydel Power Plant* 2018-2021

  - Designed and implemented a mini hydropower system to generate electricity from water flow.
  - Integrated LED indicators to showcase renewable energy generation as a sustainable power solution.

## Education

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<b>VNRVJIET, JNTUH</b> <i>M.Tech (Embedded Systems)</i>	2022–2024
GPA: 8.0	
<b>DRK Institute of Science and Technology, JNTUH</b> <i>B.Tech (Electrical &amp; Electronics Engineering)</i>	2018–2021
GPA: 7.07	
<b>Aurora Technological Institute, SBTET</b> <i>Diploma (EEE)</i>	2015–2018
Percentage: 74.4	
<b>Siddartha High School, Board of Secondary Education</b> <i>SSC</i>	2015–2018

## Skills

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- **Programming Languages:** C, C++, Python
- **Software Tools:** MATLAB, AutoCAD, PulseView, Logic Analyzer
- **Soft Skills:** Problem-Solving, Debugging, Project Management, Analytical Thinking, Adaptability, Leadership, Team-work
- **Operating Systems:** Windows, Linux (Ubuntu, Embedded Linux)

## Languages

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- **English** [Fluent]
  - **Hindi** [Fluent]
- **Telugu** [Native]