

MADETI PAVAN KUMAR

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Professional Summary

A passionate and hands-on Electronics and Communication student with strong expertise in embedded systems, IoT, IIoT, and microcontroller programming. Skilled in sensor integration, real-time databases, and industrial communication protocols. Proven ability to build innovative hardware-software projects and lead technical teams in hackathons and club activities.

Education

GMR Institute of Technology

Bachelor of Technology in Electronics and Communication Engineering

Expected May 2025

Rajam, Andhra Pradesh

Relevant Coursework

- Embedded Systems
- IoT and IIoT Tools
- C Programming
- Python Programming
- Control Systems
- Digital Electronics
- Analog Electronics
- Microcontrollers

Experience

RoboCoupler Pvt. Ltd.

May 2025 – Present

Summer Intern – PCB Design and IoT Development

Visakhapatnam, Andhra Pradesh

- Designed and developed the **KIWI Board** — a smart IoT PCB with onboard ESP8266, L298N motor driver, and direct sensor interfaces.
- Learned PCB layout design, schematic capture, and hands-on sensor/actuator integration.
- Worked with embedded tools for custom IoT product prototyping.

CEMS – Center of Excellence in Maritime and Shipbuilding

June 2025

Summer Intern – IoT and Microcontroller Systems

Visakhapatnam, Andhra Pradesh

- Gained hands-on experience in sensor integration, IoT platforms (Node-RED, Blynk, ThingSpeak).
- Built mini-projects using ESP32 and ESP8266 targeting real-world industrial use cases.
- Learned practical IIoT applications and cloud communication.

Resolute Sky Quad Electronics

June 2023 – Nov 2023

Production Intern – PCB and Smartwatch Assembly

Medchal, Hyderabad

- Participated in PCB manufacturing and assembly for Fire-Boltt smartwatches.
- Performed soldering, inspection, and testing of SMT and through-hole circuits.
- Assisted in ESD-compliant quality checks and documentation.

Projects

Smart Bus Pass Verification System | *ESP32, RFID, Firebase, JS*

2024

- Automated RFID-based passenger validation with LCD balance display.
- Real-time sync to Firebase with logs exported to Google Sheets.

Home Automation via Cloud | *ESP32, Firebase, HTML, JS*

2023

- Built a cloud-controlled smart home using Firebase and ESP32.
- Enabled secure switching and status monitoring of home appliances.

Smart Parking System | *Arduino, IR Sensors, Servo, LCD*

2023

- Automated parking slot monitoring with live display and servo gate control.

Smart Energy Meter | *ESP32, Current Sensor, Firebase, LCD*

2023

- Developed an IoT meter for power usage logging and alerts via Firebase.

Achievements

- Secured **1st Prize** in **Robotics Workshop** held at JNTUK during Diploma 2nd year.
- Won **1st Prize** in Technical Events at College Tech Fest, Chaitanya Engineering College, Visakhapatnam.
- Achieved **1st Prize** and 10,000 cash award at **STEPSTONE 2025**, GMRIT's National Level Tech Fest.
- Secured **3rd Prize** and 3,000 at ANITS College Tech Fest, Visakhapatnam.

Technical Skills

Languages: C, Embedded C, Python, Java, HTML, CSS, JavaScript

Microcontrollers: Arduino, ESP32, ESP8266, AT89S52, PIC16F877A

Developer Tools: VS Code, Arduino IDE, MPLAB X IDE, Node-RED, GitHub, Blynk, ThingSpeak

Technologies: Firebase (Auth, Realtime DB), Google Sheets API, Bootstrap, Linux, Cloud Integration

Protocols: MQTT, Modbus, HTTP, SPI, I2C, UART

Electronics: Sensors, Actuators, LCD, PCB Design, Soldering, Motor Drivers, RFID, IR Modules

Leadership / Extracurricular

ISTE Student Chapter, GMRIT

2023 – Present

Coordinator

Rajam, Andhra Pradesh

- Organized tech events, workshops, and seminars for engineering students.
- Led volunteer teams and collaborated with faculty for outreach.

Robotics Club, GMRIT

2023 – Present

Club Coordinator

Rajam, Andhra Pradesh

- Mentored juniors in robotics and embedded systems design.
- Conducted robotics competitions and project exhibitions.