R SUMUKH ARYAN

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SUMMARY

Prospective graduate student in Electronics and Communication Engineering with robust foundations in embedded systems, IoT, PCB design, and real-time systems. My academic training and projects have equipped me with practical experience in sensor integration and intelligent systems. Eager to deepen the understanding of advanced embedded systems through graduate study and applied research.

EDUCATION

Jyothy Institute of Technology — Bengaluru, India
Bachelor of Engineering in Electronics and Communication | **Concentration**: Embedded systems | **CGPA**: 8.1 — Dec 2021 - May 2025

SGPTA PU College — Bengaluru, India
Second Year Pre-University | **Concentration**: PCMC | **Percentage**: 97% — June2019 - July 2021

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, Embedded C
Hardware Skills: Arduino Uno, ESP, PCB Design, Microcontrollers
Cloud Tools: AWS Cloud
Communication Protocols: MQTT, UART

PROFESSIONAL EXPERIENCE

Bharath Electronics Limited (BEL) — Bengaluru, India
Intern
Completed structured training in electronics and RFID and worked on solar panel production — Oct 2024 – Feb 2025

ACADEMIC PROJECTS / PERSONAL PROJECTS

Smart Pathway System for Emergency Vehicles

- **Designed** and **implemented an embedded traffic management system** using Arduino and Embedded C to dynamically prioritize routes for emergency vehicles; implemented image processing techniques to develop detection algorithms for emergency vehicles and integrated IoT sensors to acquire real-time traffic information to analyze traffic patterns in real time and implemented a web traffic management dashboard using HTML and Python that can efficiently process traffic in real time.

Automated Smart Street Lighting System with Motion Detection

- **Designed and deployed a smart energy-efficient street lighting system** using motion sensors and microcontrollers; optimized **electronic circuits and PCB designs** for efficient operation, and developed adaptive lighting control algorithms that adjust lighting based on movement to reduce energy consumption.

Digital Payment–Enabled Water Collection System Using IoT

- **Designed** and implemented a smart water harvesting and dispersing system with IoT capabilities and digital payment options; worked on designing a sensing-driven monitoring mechanism and control algorithm in the system for accurate and safe distribution of water, gaining practical experience in automating smart utility services efficiently

Soil Moisture Detection and Monitoring System Using IoT

- **Designed** and applied an IoT system for monitoring soil moisture, as it is useful for real-time environmental monitoring. Also, it has enabled remote connectivity for real-time data access, and it has enhanced skill sets in sensor calibration and data acquisition for environmental monitoring.

CERTIFICATIONS

- AWS Cloud foundations – **AMAZON WEB SERVICES**
- Internet of Things **– TEQUED LABS**
- Python Programming – **TEQUED LABS**

CONFERENCES

KALANIRNAY - RVCE

- Attended a conference on the Climate Clock, where it was explained as a real-time countdown highlighting the remaining time to limit global warming to 1.5°C.
- The session detailed how it works by continuously updating the clock using global carbon budget models and emission data to emphasize the urgency of climate action

ACTIVITIES

- **SECRETARY** of IEEE Club
- **SPORTS COUNCIL** member