Sushanth K S

Electronics and Communication Engineering Undergraduate

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Education

Siddaganga Institute of Technology, Tumakuru — Sep 2023 – Sep 2025
Bachelor of Engineering in Electronics and Communication Engineering — **CGPA: 7.63**

Ambika PU College, Puttur — Apr 2021 – May 2023
Higher Secondary Education — **90.5%**

St. Ann's English Medium School — Apr 2018 – May 2020
Secondary School Education — **85%**

Technical Skills

- **Programming Languages:** C, Embedded C, C++, Python, HTML, CSS, Js
- **Embedded Systems & IoT:** ESP32, Arduino Uno, Microcontrollers, Sensor Interfacing, Data Acquisition
- **Core Computer Science:** Data Structures, Algorithms, Object-Oriented Programming
- **Data & ML (Basic):** Sensor data preprocessing, Random Forest, feature engineering
- **Databases:** MongoDB, SQL
- **Development Tools:** Git, GitHub, VS Code

Projects

Krishi Sakha – IoT-Based Smart Farming and Decision Support System

(Best Mini Project Award)

- Built an **IoT-based smart agriculture system** using **ESP32 sensors** for real-time soil and environmental monitoring.
- Developed a **Random Forest ML model (90.40% accuracy)** for crop recommendation and yield prediction.
- Applied **Sentinel-2 NDVI satellite analysis** for crop health assessment and zone-based field classification.
- Implemented **smart irrigation, fertilizer recommendations, and live mandi price integration (AGMARKNET)**.
- Designed a **labour management module** to help farmers discover nearby labour agents and manage service requests efficiently.
- **Farmer Benefit:** Enables data-driven decisions that reduce water usage, optimize labour effort, and improve crop yield and profitability.
- **Technologies Used:** ESP32, Embedded C, Python, Node.js, React, MongoDB, Scikit-learn

AquaAdvisor – AI-Powered Water Use Efficiency Advisor

- Designed a **satellite-based irrigation advisory system** using **NDVI analysis** to detect crop water stress.
- Processed **Sentinel-2 satellite imagery and weather data** to generate irrigation recommendations.
- Visualized stress zones and recommendations using **geospatial dashboards**.
- **Technologies Used:** Python, Flask, Sentinel-2 APIs, NDVI, React, Leaflet

Digital Calculator using Arduino Uno

- Developed a **microcontroller-based calculator** using **Embedded C**, keypad input, and LCD display.
- Demonstrated **hardware interfacing and low-level embedded programming**.
- **Technologies Used:** Arduino Uno, Embedded C, 4×4 Keypad, 16×2 LCD

Awards and Achievements

- **Best Mini Project Award (2025–26)** — Krishi Sakha, Department of Electronics and Communication Engineering, Siddaganga Institute of Technology.

Extracurricular Activities

Institution's Innovation Council (IIC) – Member — Jun 2024 – Present

- Actively involved in organizing and coordinating ideathons, hackathons, and innovation-focused workshops.