

## VASANTHA KUMARI CHINTALAPUDI

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### PROFESSIONAL SUMMARY

Highly motivated and results-oriented Embedded Software Engineer with 1+ years of experience in Software Developing and Testing in Embedded Systems for Automotive, Internet of Things. Proven ability to:

- Develop robust and efficient firmware for microcontrollers and microprocessors using C, Embedded C, Python.
- Interact with Hardware Components, Including sensors and peripherals.
- Optimize code for performance, memory usage, and power consumption.
- Collaborate effectively with cross-functional teams, including hardware engineers and systems Engineers.

### CORE COMPETENCIES

Embedded Firmware	Programming in C, Embedded C, and Python.
Microcontrollers	STM32F103C8T6, STM32F446RE, Arduino.
Sensor Integration	BLE Sensors, IMUs (BNO055), Motor Drives.
Communication Protocols	I2C, SPI, UART, CAN, BLE,RS232,RS 422, and RS485
Embedded Development Tools	Keil, STM32CubeMX, Visual Studio, PyCharm.
Testing and Optimization	Keil, STM32CubeMX, Visual Studio, PyCharm.
Operating Systems	Windows

## PROFESSIONAL EXPERIENCE

### Surinova Pvt. Ltd., Chennai | September 2023 – Present

Developed and Optimized Embedded Firmware for STM32 Micro Controller-Based Systems, Focusing on Sensor Integration and Motor Control, Achieving a 20% Improvement in System Response Time. Programmed real-time Applications in C and Embedded C, Ensuring Reliable Performance. Integrated and Tested Sensors (BNO055, BLE modules) and Protocols (I2C, SPI, UART, CAN), Successfully Enhancing Device Reliability.

## PROJECT EXPERIENCE

### T Rover Automated Tea Plant Pruning System

Developed firmware for STM32 microcontrollers to control motor drives and sensor modules. Integrated and optimized BNO055 IMU sensor and SPI encoders for navigation and precision pruning. Conducted sensor calibration and performance testing to ensure accuracy and reliability.

**Tools & Technologies:** Embedded C, STM32 Boards, BNO055 Sensor, Motor Drives, SPI Encoder, EEPROM.

### IoT Based Energy Meter with Home Automation

Developed firmware for an IoT energy monitoring system using ESP32 and Arduino IDE. Integrated voltage and current sensors to measure and report Realtime energy consumption. Designed control algorithms to automate switching of appliances based on energy usage. Built a user interface on a 16x2 LCD display and managed relay controls for appliance automation.

**Tools & Technologies:** ESP32, Arduino IDE, ZMPT101B Sensor, 4ch Relay Module, 16\*2 LCD Display, Miniature Circuit Breaker.

### **Academic Details**

- **Master of Technology(M.Tech):** Computer Science and Engineering – University College of Engineering Kakinada (A), JNTUK Kakinada, Andhra Pradesh.
- **Bachelor of Engineering (B.Tech):** Computer Science and Engineering – Vikas Group of Institutions, Vijayawada, Andhra Pradesh.

### **DECLARATION**

I hereby confirm that the information given in this resume is true and correct to the best of my knowledge and belief. I assure you of my commitment to perform to the best of my abilities and to contribute effectively to the organization's success.

**Place:** Chennai

**Signature:**  
Vasanth Kumari.Ch