

GOPI KRISHNA SURE

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Professional Summary

Detail-oriented Embedded Engineer with 2+ **year of experience** in **embedded hardware interfacing, industrial testing, and automation systems**. Skilled in **STM32 firmware development, PLC ladder logic, servo motor control, and DAQ-based control systems**. Hands-on experience in **damper testing systems, servo nutrunner applications, and automotive instrument cluster development**. Adept at real-time monitoring, calibration, system integration, and performance validation. Passionate about delivering **robust and efficient embedded solutions**..

Core Competencies

- Embedded C / C Programming
- Firmware Development & Debugging
- ARM Microcontrollers
- Hardware Troubleshooting
- Protocols & Interface Handling
- IoT Concepts & Sensor Integration
- Team Collaboration & Problem Solving

Tools & Technologies

- Programming: C, Embedded C, C++, Python.
- Microcontrollers: ARM(LPC 1768), 8051, STM32, Advantech USB-4704, PLC(DVP12SE11R).
- Software Tools: Keil µVision, Proteus, ASDA, ISP
- Hardware: Oscilloscope, Multimeter, Power Analyzer
- Communication Interfaces: UART, I2C, SPI and CAN.

Professional Experience

SPM India Ltd – Bengaluru, Karnataka Embedded Systems Engineer January 2025 – Present

Roles and Responsibilities: - Hands on Experience on R&D, Software and Control systems for Industrial applications.

Worked on Instrument Cluster System for automotive applications — integrating sensor inputs like fuel level, RPM, temperature, and speed using microcontrollers.

Indian Institute of Embedded System – Bengaluru, Karnataka Mar 2024 – December 2024

Internship Trainee – Embedded Systems

- Worked on microcontroller-based hardware design and testing using STM32 and Arduino.
- Developed and debugged embedded C programs for sensor interfacing and motor control.
- Used tools like Keil uVision, STM32CubeIDE, and Proteus for simulation and development.

Damper Testing & Control System

- Designed and developed a **damper testing and control system** using **Advantech USB-4704 DAQ module**.
- Implemented **analog and digital I/O interfacing** for damper actuation and sensor signal acquisition.
- Developed control logic to **operate, test, and validate damper performance** under different conditions.

- Performed **real-time data acquisition and monitoring** to analyze damper response and behavior.
- Integrated sensors and actuators with proper **signal conditioning and hardware connections**.
- Conducted **functional testing, calibration, and troubleshooting** to ensure reliable operation.
- Gained hands-on experience in **embedded hardware interfacing, industrial testing, and automation systems**.

Servo Nutrunner Control System

- Designed and implemented a **servo nutrunner control system** using **Delta PLC DVP-12SE11R**.
- Developed **PLC ladder logic** for precise **torque, speed, and direction control** of the servo motor.
- Integrated **servo drive, sensors, and I/O modules** for tightening process control.
- Implemented **tightening sequence logic, interlocks, and safety conditions**.
- Performed **parameter tuning, testing, and troubleshooting** to achieve consistent tightening results.
- Validated system performance for **industrial assembly applications**.
- Gained hands-on experience in **PLC programming, servo control, and industrial automation**.

Instrument Cluster Design for Automotive System

- Designed and developed an **automotive instrument cluster system** using **STM32 microcontroller**.
- Implemented real-time display of **vehicle parameters** such as speed, RPM, fuel level, and warning indicators.
- Interfaced **sensors and input signals** using **ADC, GPIO, Timers, and UART/SPI/I2C** peripherals.
- Developed **embedded C firmware** following modular and structured programming practices.
- Implemented **interrupt-based timing and control logic** for accurate and responsive updates.
- Integrated **LCD/LED indicators** for visual representation of system status.
- Tested and validated system functionality under different operating conditions.
- Gained hands-on experience in **automotive embedded systems and microcontroller programming**.

Academic Projects

Autonomous Sensor-Based Parking Control Device

Designed and developed an autonomous parking control system using ultrasonic/IR sensors and a microcontroller to detect vehicle presence and manage parking slot availability in real time. Implemented sensor interfacing, control logic, and visual indicators to guide drivers efficiently, reducing parking time and congestion.

Education

B.Tech (Electronics and Communication Engineering)

June 2020 -June 2023

DVR & Dr. HS MIC College of Technology,

Diploma(Electronics and Communication Engineering)

July 2017 -Mar 2020

Sri Jyothi Polytechnic Kalavapamula

Class SSC (10th)

June 2016 -Mar 2017

Zilla Parishad High School in Konayapalem

Personal Details

Languages Known: English, Telugu **Location:**

Bengaluru, India

Availability: Immediate Joiner

DECLARATION

I, Gopi krishna Sure do here by confirming that the information given above is true to the best of my knowledge.

DATE:

PLACE:Bangalore.

SIGNATURE

Gopi krishna sure