

MUDI SURESH NAIDU

+916300369644

sureshnaidumudil@gmail.com

[in](#) [LinkedIn](#)

Keshava PG, Cashier Layout, BTM 1st Stage, Bengaluru, Karnataka 560029.

CAREER OBJECTIVE

Seeking an opportunity to join a dynamic team of engineers as an embedded engineer where I can use my knowledge in firmware programming, software debugging as well as hardware debugging. Main objective is to utilize my proven ability to develop innovative solutions for complex engineering challenges.

EDUCATION

B. TECH IN ELECTRICAL AND ELECTRONICS <ul style="list-style-type: none">CGPA - 7.85 2023	Yogivemana University Kadapa, Andhra pradesh, India
DIPLOMA IN ELECTRICAL AND ELECTRONICS <ul style="list-style-type: none">CGPA - 8.67 2020	GOVT. Polytechnic Chandragiri, Andhra pradesh, India
SSC (X) <ul style="list-style-type: none">CGPA - 9.3 2017	Sarada High School T.Sundupalli, Andhra pradesh, India

TECHNICAL SKILLS

- | | |
|---|---|
| • Languages | : C, C++, Embedded C, Embedded C++, Shell scripting |
| • Data Structures & Algorithms | : Arrays, Linked lists |
| • Controllers | : LPC2129 (ARM7), NUCLEO-G070RB (ARM Cortex-M), ESP32, ESP8266, Arduino Uno (AVR) |
| • Protocols | : UART, SPI, I2C, CAN, TCP/IP |
| • Operating Systems | : Linux, Windows |
| • Tools & Platforms | : Keil uVision, STM32CubeIDE, Arduino IDE, Visual Studio Code |
| • Simulation Tools | : Proteus, Keil uVision Simulator |
| • Hardware Debugging | : STLINK-V2 (SWD Interface Debugger for ARM Cortex-M/STM32) |
| • Protocol Analysis | : Saleae Logic Analyzer (SPI/UART/I2C/CAN/PWM Protocol Decoding) |
| • AI Skills | : Prompt Engineering , ChatGPT ,Github Copilot, Web Development |

PROJECTS

SMART IOT-BASED RFID ATTENDANCE SYSTEM WITH REAL-TIME CLOUD INTEGRATION (VECTOR)

- Independently developed a customized RC522 RFID driver from scratch in Embedded C for the LPC2129 microcontroller. I decoded SPI communication using a **SALEAE Logic Analyser** for precise protocol-level debugging.
- Integrated ESP8266 with Google Sheets via HTTPS using AT commands to log attendance data in real-time.
- Engineered dynamic Google Sheets management that auto-creates daily logs with date-wise naming, tracks in/out time, and generates monthly summaries with total working hours.
- This project reflects deep expertise in embedded system development, SPI protocol analysis, and seamless cloud-based automation.

PERFORMANCE ANALYSIS OF A TRANSFORMERLESS DVR USING T-TYPE MULTILEVEL INVERTER (ACADEMIC)

- Designed and simulated a transformerless Dynamic Voltage Restorer using a T-Type Multilevel Inverter with reduced switch count in MATLAB/Simulink.
- Achieved efficient voltage sag and swell mitigation, improved power quality, and minimised harmonic distortion for large load handling.

IOT-BASED FINGERPRINT ATTENDANCE SYSTEM WITH WEB PORTAL INTEGRATION

- Developed an end-to-end IoT attendance system using STM32 NUCLEO-G070RB (bare-metal, no HAL) with custom drivers for UART (R307, ESP8266) and I2C (DS1307 RTC).
- Built a responsive React + Tailwind web interface for fingerprint enrollment, employee management, and real-time session tracking.
- Engineered bi-directional communication between ESP8266 and backend (Node.js + MongoDB) using RESTful APIs over TCP/IP.
- Implemented smart session logging: detects login/logout, calculates total daily time, and tracks multiple sessions per employee per day.
- Designed a cloud-based reporting system for monthly attendance visualization, searchable by employee, with full-stack synchronization from device to database.

MINI PROJECTS

WI-FI BASED IOT APPLIANCE CONTROLLER WITH ESP32

- Built a wireless smart device that automates home appliances via ESP32 and the Blynk IoT platform.
- Focused on real-time remote switching, dynamic device configuration, and cloud-controlled actions.

OWN STRING CLASS IMPLEMENTATION IN C++

- Developed a custom String class in C++ with dynamic memory management and operator overloading, replicating standard C string functions with deep copying and optimal memory usage.

C PREPROCESSOR STAGE IMPLEMENTATION

- Built a custom C program to simulate the preprocessor stage by automating header file inclusion, macro replacement, and comment removal, enabling clean code preprocessing for efficient compilation.

PROFESSIONAL TRAINING

EMBEDDED SYSTEMS DEVELOPMENT

VECTOR INDIA – BENGALURU | DURATION: 8 MONTHS (SEP 2024 – PRESENT)

- Completed professional training in Embedded Systems with a focus on C, C++, ARM, UART, SPI, I2C, and CAN protocol. Developed an IoT-based RFID Attendance System and multiple mini projects showcasing firmware development, hardware-software integration and Low-level protocol analysis.

ACHIEVEMENTS

- Awarded "NCC 'C' Certificate" after successful completion of National Cadet Corps training, demonstrating leadership, teamwork, and discipline.

PERSONAL SKILLS

- Detail-Oriented
- Problem-Solving Mindset
- Quick Learner

PERSONAL DETAILS

Date of Birth : 15th, JULY, 2002

Permanent Address : 11/28, Nagari, Mudumpadu (V), T.Sundupalli (M), Annamayya (Dt),
Andhra Pradesh – 516129.

Present Address : Keshava PG, Cashier Layout, BTM 1st Stage, Bengaluru, Karnataka 560029.

Languages Known : English (R | W | S), Hindi (R | S), Telugu (R | W | S).

DECLARATION

I do here declare that all the details furnished above are true to the best of my knowledge and belief.

M.SURESH NAIDU
SIGNATURE