

CONTACT



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EDUCATION

2019-2023

NRI INSTITUTE, AGIRIPALLI

b.Tech (Electrical and
Electronics Engineering)

2017 - 2019

SRI GAYATRI COLLEGE

Intermediate 8.94 CGPA

2016-2017

Thrividha school

SSC 9.5 CGPA

TRAINING

Completed specialized training in **Embedded Systems** from **Vector India Pvt. Ltd., Bangalore**, focusing on microcontrollers, real-time operating systems (RTOS), and communication protocols.

PERSONAL DETAILS

Full Name : Mandapati

Prasad Babu.

Gender : Male

Status : Umarried

DOB : 21/08/2001

Address : Ravicherla, Nuzvid
mandal, Krishna district,
Andhra Pradesh.

PRASAD BABU

EMBEDDED FIRMWARE DEVELOPER PCB DESIGNER

PROFILE

To seek and maintain full-time position that offers professional challenges utilizing interpersonal skills, excellent time management and problem-solving skills.

WORK EXPERIENCE

Roboworks Automation

2023- PRESENT

Embedded Firmware Engineer

Collaborated with engineers to develop embedded solutions, including software, firmware, and hardware integration.

Developed software-defined networking solutions for corporate networks, and high-level code in various programming languages. Designed and optimized software for automation hardware such as microcontrollers and sensors, improving performance by modifying existing code. Worked with clients such as ITC, TOYOTA, ISTRAC, and IIST, contributing to products like RS485-WIFI Converters and Digital Encoder Readouts.

SKILLS

Languages : C, C++, Embedded C

Software : Python, HTML, CSS.

Designing : PCB Designing(2 layers), KI-cad.

Microcontrollers : STM32, ESP32, Arduino, ARM7(LPC2129)

Modules : HMI Touch screen display, I2C multiplexer, RS-485, CH376s, HC12, TM1637-display, LaRa, W5500(ethernet).

Sensors : HW-691, BME280, HX711(load cell), 7 semi sht20.

Protocols : UART, I2C, SPI, CAN, TCP/IP, MODBUS.

OS : Windows, Linux(ubuntu), FreeRTOS.

DEBUGGERS : STM32CUBIEDE, Proteus, ARDUINOIDE, KIELIDE, GCC, ESP-IDF, Nextion Edition .

CERTIFICATIONS

Certified in Embedded Systems upon successfully completing the training program at Vector India Pvt. Ltd., Bangalore, gaining hands-on experience with microcontrollers, communication protocols, and embedded software development. Recognized with multiple certificates for actively participating and securing runner-up positions in several competitive events during college, showcasing problem-solving and technical skills. Awarded a certificate for contributing to a short-term Solar Panel Workshop, enhancing knowledge of renewable energy technologies and practical implementations.

PROJECTS

Smart Agriculture Automation

- Temperature and Humidity Sensors
- Real-time Sensor Data Analysis
- Embedded C, UI/UX Design on nextion display.
- Password Protection & Secure Access
- ESP32, Relay Control (5V-230V)

Modbus RS485 to Wi-Fi Converter with ESP32

- Modbus RTU Protocol
- MQTT Communication
- Web Interface Design (HTML, JavaScript)
- Wi-Fi Communication (SoftAP, Static IP)
- Embedded C, Real-time Data Transmission

Multi-Encoder Quadratic Counting System

- Real-time Data Display (TM1637)
- STM32F103C8T6 Microcontroller
- Quadratic Encoder Interface
- FreeRTOS for Task Management
- Embedded C, Interrupt Handling
- 8 digit Range on TM1637 displays

Embedded Systems with LoRa/HC12 for Offline Data Transmission

- LoRa Communication Protocol
- Modbus, UART, LVDT Interfaces
- Remote Data Collection and Transmission
- Embedded C, Low-Power Design

Rail Tribometer (Friction and Weight Measurement System)

- HTML login page for **Hotspot**, password settings, cof calculations etc
- Real-time Data Monitoring (Temperature, Pressure, Humidity)
- Mobile App Integration (Offline Mode)
- Encoder-based Distance Measurement
- **ESP32**(SetAP mode), HX711 Load Cell Interface

Ethernet-based RS485-Wi-Fi Converter and Andon System

- **W5500, W5500 Lite** Ethernet Modules
- Modbus RTU Communication
- Ethernet-based Communication for Industrial IoT
- Embedded C, Industrial Networking

Motor Control with ESP32 and LCD Interface

- ESP32 Microcontroller
- Stepper Motor & DC Motor Control
- 1602A I2C LCD Display
- Button-based User Interface
- PWM-based Speed Control
- Embedded C, Real-time Motor Control

Custom PCB Design and Development

- PCB Design (KiCad)
- Power and Signal Integrity Design
- Embedded Circuit Optimization
- Components and Schematic Design
- prototyping and Testings

Andon Signaling System with IoT Integration

- Optocoupler-based I/O Monitoring
- MQTT Communication Protocol
- SoftAP for Wi-Fi Credential Configuration
- Embedded C, Remote Monitoring

DECLARATION

- I hereby declared that the above particulars of facts and information stated are true, correct and complete to the best of my knowledge.