

Roshan Shrivastav

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EXPERIENCE

BEST AUTOMATION | EMBEDDED SOFTWARE ENGINEER

Jan 2024 – Present

- Designed and developed embedded software solutions, including firmware and device drivers, using C and assembly.
- Developed multiple projects using STM32 microcontrollers and ESP32 boards, including sensor data acquisition, motor control, Wi-Fi, and Bluetooth communication.
- Optimized CAN, I2C, SPI, and LIN communication protocols, reducing data latency by 20
- Utilized STM32Cube IDE for firmware development, including code generation, configuration, and debugging

PROJECTS

SMART RACK | PROJECT LEAD

July 2024 – Sept 2024 | Stm32 CAN

- Led the development of a smart rack system using STM32F746ZG (master) and STM32F042K6 (slave) microcontrollers connected via CAN protocol.
- Implemented weight sensors for automatic object counting and real-time inventory tracking.

ITEM LIFE | PROJECT LEAD

Sept 2024 – Oct 2024 | NRF24L01, STM32

- Developed an RFID-based inventory management system to monitor item shelf life, calibration schedules, and preventive maintenance.
- Designed a wireless transmission system using STM32 microcontrollers and RFID technology to enable real-time data transfer.

X-Y MOVEMENT OF CAMERA | PROJECT LEAD

Dec 2024 – Jan 2025 | ESP32, Web Interface, IoT

- Designed and developed a remote-controlled camera movement system using ESP32, enabling X-Y directional control via a web interface.
- Configured ESP32 as a server, generating an IP address (e.g., 192.168.107.134), allowing users to control the camera through a web browser.
- Implemented real-time motor control via a web-based interface, providing smooth and precise movement of the camera.
- Established wireless communication between the ESP32 and the server, ensuring low-latency control over the camera's movement.

EDUCATION

SANT GADGE BABA AMRAVATI UNIVERSITY

BACHELOR IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Aug 2019 – Jun 2023

GPA: 6.93

SKILLS

PROGRAMMING

SKILLS

PROGRAMMING LANGUAGES

C/C++ (Advanced)

Python (Advanced)

Embedded C (Advanced)

Embedded C++ (Advanced)

Assembly Language (Intermediate)

EMBEDDED SYSTEMS

RTOS (FreeRTOS, Zephyr)

Firmware Development

Microcontroller Programming (STM32, ESP32, EFR32, Arduino)

Bare-Metal Programming

Low-Power Embedded Systems

COMMUNICATION PROTOCOLS

CAN, LIN, SPI, I2C, UART, USB, MODBUS, TCP/IP, UDP

DEVELOPMENT TOOLS

STM32CubeIDE, Keil, Arduino IDE

WIRELESS & IOT

RFID, NRF24L01, Wi-Fi, Bluetooth (BLE), LoRa, Zigbee

Cloud IoT: AWS IoT, Google Cloud IoT

COURSEWORK

TRAINING

Completed Advance Embedded System course form Vector India Private Limited

LINKS

LinkedIn:// Roshan Shrivastav