MOHAMED ISHAUQ

Embedded Software Engineer

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OBJECTIVE

To secure an entry-level embedded systems engineer role where I can apply my hands-on project experience with microcontrollers and low-level programming.

ABOUT ME

I am Mohamed Ishauq S, a final year Electronics and Communication Engineering student with a passion for embedded systems. I am actively learning C programming, bare-metal coding, and working with microcontrollers like ESP32, Arduino, and on STM32. I have experience in building projects such as an autonomous car with remote, voice, and self-driving control. Eager to apply and expand my skills in real-world embedded systems projects

EDUCATION

Aalim Muhammed Salegh College of Engineering

B.E. in Electronics and Communication Engineering - 2022 - 2026

SKILLS

- **Embedded Systems**: STM32, ESP32, Arduino,Raspberry pi, Bare-metal programming
- **Programming**: C language, Python
- **Tools**: STM32CubeIDE, Arduino IDE, VS Code, Github, Linux (basic terminal usage, Raspbian OS), STM32-ST Link utility software (V2 programmer)
- **Communication Protocols**: UART, I2C, SPI, Blutooth
- **Languages**: English, Tamil, Hindi

PROJECTS

1. STM32 Bare-Metal Drivers(Basics)

Developed low-level drivers using STM32CubeIDE with register-level programming. Gained hands-on experience reading datasheets and configuring peripherals like GPIO and UART.

2. Multi-Mode RC Car (Arduino)

Built an Arduino car with voice control, Bluetooth app control, and obstacle avoidance using ultrasonic sensors and L293D motor driver.

3.Self Balancing Robot using ESP32

Designed and developed a two-wheeled self-balancing robot using the ESP32 microcontroller. Integrated MPU6050 IMU sensor for real-time tilt angle detection and implemented PID control algorithm to maintain balance. Tuned parameters through serial feedback. Powered by a Li-ion battery and controlled via Bluetooth for manual override.

4. Automatic Attendance System using Raspberry Pi

Designed a smart attendance system using Raspberry Pi and OpenCV for real-time face recognition. The system captures and recognizes student faces through a camera module and logs attendance automatically into a file.