Flomobility Pvt Ltd

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HSR Layout, Bengaluru, Karnataka 560102
Website: https://flomobility.com

Job Description – Embedded Design Engineer

Required experience: 2 years

Salary: Negotiable

Job type: On-site, full time

Company Overview

The world is moving towards an autonomous future where sooner or later everything that is driven, pushed or pulled today, will be moving by itself.

At Flo Mobility, we believe that the true adaptation of autonomy lies in the seamless coexistence of humans and bots. By leveraging the power of sensors, computer vision, edge computing, and actuators, we optimize this relationship to deliver the best speed, agility, comfort and control. Our hero product, FLO Hauler, is an Autonomous Electric Material mover, helping customers reduce time and cost of moving material across Construction, Agriculture, Mining and Warehousing industries.

Flo Hauler is being used by industry leaders like L&T, PSP, Total Environment to gain 50% savings on cost and time for last mile of material movement. Our solutions are offered on Raas (Robot-as-a-service) model. The no capex approach making it easy for our clients to adopt our MMRs (Material Movement Robots).

Role Overview

We are looking for an Embedded Systems/IoT Developer proficient in STM32 (STM32CubeIDE/ HAL) and ESP32 (Arduino IDE). The candidate will be responsible for firmware development, peripheral interfacing, communication protocol integration,

and real-time embedded system design, with a strong focus on CAN communication.

Responsibilities

- Develop, test, and debug firmware for ESP32 on Arduino IDE and STM32 on the CubeIDE.
- Work with peripherals and drivers (GPIO, ADC/DAC, I2C, SPI, UART, PWM, Timers).
- Implement CAN on STM32 using HAL drivers.
- Implement CAN(TWAI) on ESP32 (Arduino framework/driver-level).
- Integrating AWS IoT using MQTT/HTTPS.
- Implement OTA (Over-The-Air) firmware updates for ESP32 and STM32.
- Wireless communication and developing web server with ESP32.
- Conduct unit testing, debugging with SWD and serial interfaces.
- Collaborate with hardware, mechanical and backend-software teams for smooth system integration.
- Maintain documentation (firmware architecture, APIs, communication protocols).

Skills

MANDATORY: MUST HAVE SKILLS AND HANDS-ON EXPERIENCE

1. STM32 Firmware Development
2. CAN Communication
3. ESP32 (Arduino IDE) - wireless communication: WiFi: WebServer, WebSockets, MQTT
4. Sensor integration with STM32

SKILLS REQUIRED FOR THE JOB ROLE

Embedded Systems and Development Skills

- Strong knowledge of C/C++ for embedded systems.
- Debugging using SWD, serial logs, and logic analyzer.

3.

- Knowledge of PCB schematics for interfacing peripherals and hardware debugging.
- Understanding of electronics fundamentals (voltage levels, sensors, actuators).
- GIT version control.
- Basic cybersecurity for IoT (TLS for AWS IoT).

STM32 (STM32CubeIDE / HAL)

- STM32CubeIDE, STM32CubeMX for configuration.
- Proficiency with HAL drivers.
- Timer, Interrupts, DMA usage.
- UART, SPI, I2C, ADC/DAC drivers.
- CAN communication on STM32.

ESP32 (Arduino IDE)

- Arduino core for ESP32.
- Wi-Fi stack (scanning, connection, web server).
- MQTT/HTTP/HTTPS communication.
- AWS IoT using ESP32
- CAN/TWAI communication on ESP32.