Senior Embedded Systems Consultant - Device Integration & IoT Solutions

GormalOne LLP. Mumbai IN

GormalOne is a social impact enterprise focused on farmer centric projects. Our vision is to make farming highly profitable for the smallest farmer, thereby ensuring India's "Nutrition security". Our mission is driven by use of advanced technology. Our technology will be highly user friendly, for majority of farmers, who are digitally naive. We are looking for people, who are keen to use their skills to transform farmers lives. You will join a highly energised and competent team which working on advanced global technologies such as OCR, facial recognition, AI led disease prediction amongst others

Job Summary:

GormalOne LLP in search of an experienced Senior Embedded Systems Consultant to spearhead our device integration and IoT solutions initiatives. This pivotal role entails the development, optimization, and seamless integration of embedded systems with pre-existing hardware such as **milk analyzers and weighing machines (mandatory)**. The ideal candidate will possess deep expertise in microcontroller programming, real-time operating systems, and diverse communication protocols, all aimed at bolstering system connectivity and operational efficiency.

Key Responsibilities:

System Architecture and Embedded Development: Lead the architecture and development of robust embedded systems utilizing microcontrollers like Raspberry Pi Pico and ESP32. Harness expertise in FreeRTOS and Embedded C while exploring innovative programming languages such as Embedded Python to push system capabilities further.

Device Integration and Communication Protocols: Design and implement sophisticated communication protocols including USB, RS-232, UART, Wi-Fi, Bluetooth (BLE 5.0). Ensure flawless data transfer and interfacing among integrated systems and hardware devices.

IoT Connectivity and Application Integration: Develop comprehensive IoT solutions and craft APIs to enhance connectivity between embedded systems and mobile/web applications. Employ innovative connectivity technologies such as LoRa, Bluetooth (BLE 5.0) for expansive system integration.

Power and Data Management: Strategize and refine power management systems and devise advanced battery management techniques. Implement robust data storage solutions to maintain the integrity and security of data across systems.

Technical Leadership and Innovation: Lead technical troubleshooting, system testing, and exploration of future technologies. Champion the adoption of next-generation RTOS solutions and pioneering programming languages to maintain technological leadership.

Project Management and Collaboration: Work closely with cross-functional teams to achieve project milestones. Manage and lead projects from conception to implementation, aligning with strategic aims and adhering to industry standards.

Primary Qualifications:

Education: Bachelor's or Master's degree in Electronics Engineering, Electrical Engineering, Computer Science, or a related technical field.

Experience: At least 12 years of direct experience in embedded systems design and development, with a strong emphasis on IoT and device integration.

Technical Proficiency: Ability in microcontroller platforms like Raspberry Pi Pico and ESP32; profound knowledge of FreeRTOS; skilled in programming languages such as Embedded C, and familiarity with Embedded Python.

Protocol Expertise: Extensive knowledge of essential communication protocols for IoT and device integration, including USB, RS-232, UART, Wi-Fi, LoRa, Bluetooth (BLE 5.0).

Systems Integration: Proven ability to integrate complex hardware systems within a connected environment, improving performance and reliability.

Desired Qualifications:

Industry-Specific Experience: Hands-on experience with dairy technology devices, such as **milk analyzers and weighing machines**, understanding their communication and operational specifics.

Regulatory Knowledge: Knowledge of industry standards and regulatory requirements pertinent to dairy and precision measurement sectors.

Innovation and Research: Keen interest in and ability to embrace and lead the integration of innovative technologies and methodologies in embedded systems.

Communication Skills: Exceptional verbal and written communication skills, capable of effectively conveying complex technical information to both technical and non-technical audiences.

About the Role:

This role is central to the enhancement of our integrated hardware platform, focusing on the creation of connected, efficient, and innovative solutions. The Senior Embedded Systems Consultant will significantly influence the future of our technology stack, presenting a unique opportunity to affect the field of embedded systems and IoT integration profoundly.