

**Firmware Engineer
IoT Wireless Devices / Embedded Software**

**Onalabs Inno-hub S.L.
Barcelona.**

Applications are invited from suitably qualified candidates for a full-time position as a Firmware Engineer acting as a developer on a project involving IoT Wireless technology. This position relates to Stage 1 of a project that focuses on the commercialisation of a monitoring medical device, but it is expected that the role will carry into Stage 2 of the project, subject to successful attainment of project milestones.

Job Description:

The successful candidate will have the opportunity to join a dynamic and motivated team developing a medical product for use in extensive care IoT applications. The candidate will be involved in the implementation of tailored firmware and embedded software in a fast-paced environment, encompassing all the stages of project development: proof-of-concept, prototyping, experimental, MVP (minimum viable product).

The candidate will be responsible for assisting in the implementation of data processing algorithms, standardized communication protocols and resource optimization, generating tailored embedded software for the electronic hardware, communication protocol, and required data output. The candidate will work in close conjunction with our electronics and materials engineers already working on the hardware and sensing parts of the device.

In addition to working closely with other members of the internal technical team, they will also engage with suppliers and external design firms to collaboratively establish a proof-of-concept medical device.

Duties:

- Work and collaborate in a team with broad expertise in areas associated with medical device development.
- Have oversight and provide technical insight over the development of device required firmware and embedded systems.
- Assist on the design and implementation of experimental procedures, providing tools for data acquisition and processing, including embedded solutions.
- Develop and optimize firmware / embedded software for: Experimental procedures, prototype development, data communication, processing algorithms, safety and data protection.
- Develop and optimize firmware / embedded software considering: Power consumption optimization, medical device regulation, radiofrequency limitations.
- Assist with the generation of a user-friendly interface for display and recoding of pressure measurements.
- Proactively identify firmware related technical solutions and risks for project deliverables.
- Work with external design firms in the transfer of knowledge required for development of a proof-of-concept, minimum viable product (MVP).
- Assist in the testing of a proof-of-concept product in a healthy volunteer study.
- Documenting work in line with quality systems.
- Iterative prototyping of entire device

Qualifications/Skills required:

Essential Requirements:

- Degree in Electrical Engineering, Telecommunications Engineering or Computer Science (or related field) and a minimum of 2-year experience.
- Evidence of expert knowledge in the area of embedded software and wireless communication protocols.
- Experience in microcontrollers family MSP430 from Texas Instruments and STM32 from ST Microelectronics.
- Demonstrable experience in programming languages for firmware (C/C++).
- Programming skills in a language/software relevant to the development of wireless device/computer communication and user interface (Python).
- Experience with serial communication protocols (I2C, SPI, UART).
- Experience with wireless communication protocols both LAN and WAN (BLE, WiFi, LoRa).
- Use of repository version control systems (Git).
- Motivated and independent person, dynamic, creative thinker and problem solver.
- Excellent verbal and written communication skills.

Desirable Requirements:

- Experience with connected health projects would be beneficial.
- Knowledge of RTOS systems (FreeRTOS).
- Knowledge of basic database management (SQL).
- Knowledge of other wireless communication protocols (3G/4G).

Contact: Send curriculum and cover letter to j.aguilar@onalabs.com