Sapien-Tech

INTERNSHIP • 4 MONTHS

Firmware Engineer

Embedded Systems & Firmware Development

Location	Remote-first (occasional on-site / lab days may be arranged)
Type	Internship — full-time hours
Duration	4 months
Compensation	Unpaid internship
Reports to	Ali Alhubaishi, CEO & Founder

About the Role

Join our firmware team building the embedded code that runs on our condition-monitoring devices. You will write and test firmware (Arduino framework, C / C++) that reads sensors, processes the data, and sends it securely to the cloud. You will be mentored by senior engineers and own meaningful pieces of the firmware — with a strong focus on testing what you build.

The internship is remote-first — we ship you the development kits and boards you need. For some hardware bring-up and bench testing, occasional on-site or lab days may be arranged.

What You'll Do

FIRMWARE DEVELOPMENT

- Write and test firmware for the microcontroller using the Arduino framework (C / C++).
- Build and improve drivers for sensors and peripherals (I2C, SPI, UART, ADC).
- Help manage power, sleep modes, and reliability for field devices.

CONNECTIVITY & DATA

- Send device data securely to the cloud over a wireless connection.
- Help define and maintain the on-device data format and sampling.
- Support remote update and configuration.

TEST & DEBUG

- Write small tests and bench-check firmware against real hardware.
- Use serial logs, debuggers, and logic analysers to find and fix issues.
- Confirm the readings are accurate and repeatable before release.

What We're Looking For

- Studying towards (or recently finished) a degree in Computer / Electronic Engineering, Computer Science, or similar.

- Hands-on coding in C / C++, ideally with Arduino / microcontrollers.
- Basic understanding of how microcontrollers and sensors work.
- Methodical at debugging and comfortable reading a datasheet.
- Careful, organised, and good at writing things down.

Nice to Have

- Experience with Arduino or other microcontroller platforms.
- Exposure to sensors, wireless connectivity, or real-time programming.
- Personal or course embedded projects.
- Experience with version control (Git).

What You'll Gain

- Real project experience on hardware, firmware, and data that ships in live products.
- One-on-one mentorship from senior engineers.
- A finished project you can show in your portfolio.
- A reference letter on completion, and a possible path to a full-time role.

How to Apply

Send your CV and a short note about a project you've worked on to info@sapien-tech.io. If you have a portfolio, GitHub, or project photos, include them — we care more about what you've built than perfect grades.

Sapien-Tech is an equal-opportunity employer. We welcome applicants of all backgrounds.