

# Applicative Demos for GAP8 Processor

## Internship

GreenWaves Technologies is a fabless semiconductor company based just outside Grenoble, France. We were formed in 2014 with the mission of revolutionizing intelligent sensors and devices. We have developed GAP8, an ultra-low power IoT Application Processor. GAP8 enables devices to interpret and act on image, motion and sound data at energy levels which allow years of operation on batteries bringing low installation and operation costs.

The target of this project is to bring up Applicative Platforms (called *GAPOC* -- for 'GAP Proofs of Concept') for the GAP8 processor, representative of final products in terms of form factor, usage, power consumption, etc.

A key aspect of the *GAPOC* platform is its modularity, allowing to quickly and easily derive variants for different target applications: this modularity must also be ensured at demo software level.

GAP8 is architected around RISC-V open-source micro-controller cores. We develop GAP8 software mostly in a Linux environment.

### Responsibilities:

- Develop validation code, demo code and testbenches to run on GAPOC -- involving the control of (some of) the following:
  - Image and IR sensors,
  - IoT radios (NB-IoT/LTE CAT-M, Sigfox/LoRa, BLE...),
  - presence/gesture detection sensors (optical, mm-wave...),
  - vibration sensors,
  - microphones,
  - etc.
- Develop and document Board Support Packages [BSP] / drivers for GAPOC
- Deploy them to application-focused users
- Deliver example code illustrating BSP usage for typical use cases
- May also include prototyping of simple Android App with BLE/WiFi communication

### Required skills:

- Embedded Software student, Ingénieur/Master's degree
- C code proficiency, in an embedded system context
- Experience with 32-bit microcontrollers and classical MCU interfaces
- Ability to combine a "hands-on" and pragmatic approach with a clear sense of rigor
- Basic understanding of lightweight embedded OS/kernels (e.g. FreeRTOS or similar)

### Bonus skills:

- Git
- Radio protocols (Bluetooth Low Energy, etc)



[careers@greenwaves-technologies.com](mailto:careers@greenwaves-technologies.com)

- Signal Processing (esp. sensor fusion)
- Android / Python / C++

This internship would be particularly suitable for someone having experience in “making” or “hacking” things as a hobby -- perhaps someone who tinkers with robots, programs nano-drones, or plays with prototyping boards such as ST-Nucleo, RPi, Arduino...

Employment type: Full - time;

Duration : 4 to 6 months;

Location : Villard Bonnot (near Grenoble, France)

Remuneration: 1000 Euros/month + 200 Euros/Month (bonus)

Please send your application to [careers@greenwaves-technologies.com](mailto:careers@greenwaves-technologies.com)