Jonathan Gelie

BLE/Embedded Software Engineer

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Enthusiastic Bluetooth LE and embedded software engineer with 14 years experience across real-time software for all classes of processors embedded in complex environments. Routinely responsible for solving particularly difficult problems that require a broad, interdisciplinary approach. Strong experience working on the full software development lifecycle from requirements capture, design and development right through to production. Outstanding programming skills in C, Python, Bash Scripting Languages .

Summary of qualification

- Wireless communication protocols and stacks (Bluetooth LE, mioty, Zigbee, LoRaWAN)
- Advanced knowledge of embedded development programming and power optimization
- Strong debugging skills - electrical design principles
- Ability to understand hardware block diagrams and schematics
- Strong interpersonal and communication skills; experience communicating directly with customers
- International experience where overcome obstacles, and deal with the unexpected, giving the greater flexibility and creativity in problem solving

Entrepreneurial experience

Since March 2015

Founder and CEO of www.technycore.com,
Embedded Software consulting, Nice, France
- Technycore is an IoT consulting firm oriented around the design and support of innovative connected devices
- Self-motivated and committed to excellence

Since Nov 2019

Sr Wireless Firmware Engineer Architect,
Behrtech, Toronto, Canada
- Lead the execution of FW programs and connectivity
- Designed and developed the first dual stack mioty (LPWAN) and Bluetooth LE solution (Industrial IoT Solution of the Year - Wireless Congress presentation - stack available on T.I website - Innovation patented)
- Optimized IoT device power consumption (devices runs for years instead of months)
- Enhanced firmware update procedure making the download process easier for customers
- Support world-class modem and manufacterer designer
- **Core technologies:** LPWAN, BLE, RTOS, Embedded C, Python, Texas Instruments, CC1352x, STM32, Silicon Labs EFM32, Spectrum analyzer, pySide, CCS, GPS, Sensors

July 2017–August 2019

Sr BLE (Bluetooth Low Energy) Firmware Developer,
Abeeway (Joint venture with Actility) on behalf with Technycore, Nice, France
- Design Device Firmware communication and Update with linker scatter file, reducing Flash and RAM usage, and increasing throughput
- Bluetooth Low Energy domain owner (physical layer, Central, Peripheral and Observer role)
- Achieved low power systems consumption requirement
- Designed and implemented automated testing program Python based
- Shipping consumer electronics products - 5 million dollar deal
- **Core technologies:** Bluetooth Low Energy, Embedded C, Python, STM32WB, Nordic nRF52, EFM32, BlueZ, WiFi ESP82, Ubertooth One protocol analyzers, Wireshark, logic analyser, pyQt, dpkg-deb, git, repo, GNU build systems

March 2015–June 2017	**BLE Developer**, *INTEL New Devices Group on behalf with Technycore*, Nice, France

- Developed the next generation of IoT devices within the BLE SW development team
- Defined and implemented a Remote Protocol Call solution between main processor and BLE chip
- Fixing issues by capturing and analyzing Bluetooth stack, HCI exchanges and Bluetooth protocol analyzers.
- Designed and developed Apple Notification Center Services for wearable products.
- Jointly worked with Zephyr (Linux Kernel IoT Os) developers for GAP/GATT API implementation.
- Test methods: Implemented Python sanity test script (Bluepy and Python based) for non-regression and validation purpose
- **Core technologies:** Bluetooth Low Energy, Curie Module, Embedded C, Python, nRF51, BlueZ, Zephyr real-time operating systems, Frontline BPA600 protocol analyzers, Profiling Test Suite (Bluetooth certification), git, repo, GNU build systems

Additional professional experience

Nov 2013–Nov 2014	**Android/Linux System Engineer**, *Jamdeo (Jointure with Flextronic and Hisense)*, Toronto, Canada

- Designed and implemented a complex Network protocol and software for a connected home-automation devices.
- Porting Linux Embedded application to TI CC2300.
- Developed IPTV-related applications within Android and GoogleTV on proprietary chipsets.
- Reviewing/prototyping new technologies and innovations
- **Core technologies:** Ethernet, TCP/IP, UDP broadcast, ARP, Android NDK, Android TV, Linux Daemon, C, C++, Multi-threading, Java, git, repo, POC on Beagle Bone Black.

2008–2013	**Embedded Software Engineer**, *Centralp*, Lyon, France

- Developed embedded systems based on Linux Drivers for various peripheral devices and system components such as input/output, sensors drivers, PCI devices.
- Experience with communications protocols (SPI, UART, I2C, USB)
- Developing under SIL2, safety and security concepts in embedded devices
- Proficient in working with wireless technologies (GSM, WIFI, GPS, Zigbee) and Fieldbus.
- Identified analysed and resolved complex software inadequacies.
- Cooperated with other internal development teams and with external customers.
- **Core technologies:** Linux Kernel and device drivers, Embedded C, C++(Qt), Shell Scripting Languages, Zigbee, GSM, UART, PCI, I2C, Presto Payments system, ARM Cortex-Mx, Atom, OMAP, 8-bit microcontrollers PIC

Education

2005–2007	**Master's Degree in Engineering**, *University LYON I*, Lyon, France
2016	**Certificate Linux Kernel and Drivers Development**, *Baylibre*, Nice, France
2015	**Certificate Bluetooth - Operation, Procedures and Testing**, *Inacon*, Nice, France
2013	**Certificate Android System Development**, *Bootlin Free-electrons*, Toulouse, France

Relevant personal project

BLE Qt monitor	Enhancing Bluetooth LE development and debugging, by seamlessly married C, Python multithreading, Bluez and unix domain socket (more details...).

Interests

Track-and-Field	Former high level Athlete on 400m. Emphazise determination and self-motivation.
Travel	Enjoying immersion in different countries. Developing curiosity and open-mindedness.