

FRANCOIS BERDER

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I am a software engineer specialised in embedded systems, currently working as a freelancer.

EDUCATION

Imperial College London (London, UK)	2011 - 2015
Master of Engineering in Computer Science	
Lycée Français Charles De Gaulle (London, UK)	June 2011
Scientific Baccalaureate with highest honours	

WORK EXPERIENCE

Hudl (Remote position, working from France)	April 2023 - August 2023
Embedded Software Engineer	

Contributed to the development of a Yocto device to allow over-the-air update.

- Wrote a library in C++17 to update remotely Yocto devices via AWS IoT jobs using AWS IoT SDK
- Improved UI of a Qt application written in C++ and QML to allow users to update their own devices.

Anjuna (Remote position, working from France)	July 2022 - February 2023
Software Engineer	

Contributed to the development of a software product that protects applications confidentiality and integrity by relying on Intel SGX technology.

- Fixed several bugs reported by customers by examining logs, using gdb or strace, decompiling code to x86-64 assembly...
- Wrote additional unit tests in C++ and system tests in Python
- Investigated Jenkins pipelines failures, fixed Dockerfile
- Improved tools written in Python and Go

Ajustco (Remote position, working from France)	June 2022 - December 2022
Software Engineer	

Development of a graphical user interface for configuring and running a laser marker.

- Gathered requirements from the customer
- Wrote an application in Python and Qt that interacts with a MySQL server
- Packaged a Linux application to ease distribution to the customer

Spin (Remote position, working from France)	July 2021 - December 2021
Embedded Software Engineer	

Development of an electric scooter rental service.

- Debugging firmware written in C on a STM32 running FreeRTOS
- Relied on static analysis tools: smatch, cppcheck and clang static analyzer to find
- Refactored CMake configuration files

ARM (Cambridge, UK)	October 2020 - May 2021
Senior Software Engineer	

Support for a build system written in Go, Python and Bash for C and C++ software running on Linux and Android platforms.

Kynesim (Cambridge, UK)

July 2017 – October 2020

Embedded Software Engineer

Development of embedded systems solutions in a small consultancy company. Responsible for designing software architecture, implementing specifications and automated tests either alone or as part of a small team.

Key learnings:

- Experience writing firmware in C on various microcontrollers: MSP430, Cortex-M0 and Cortex-R4
- Wrote Linux applications in C++ running on TI AM3552 (ARM Cortex-A8)
- Learned how to read schematics, debug hardware prototypes

Imagination Technologies (King's Langley, UK)

January 2016 – June 2017

Graduate Software Design Engineer

- Provided support for an IoT solution named Ci40 running OpenWRT
- Created a library in C and Python to interface Ci40 with many sensors
- Wrote production test software in Python using PyQt
- Implemented drivers for PIC32 peripherals in C on Contiki and RIOT-OS

IT SKILLS

Programs created: HAL for PIC32 for RIOT-OS and MyNewt OS (upstreamed), multithreading on Cortex-M4F, IoT water pump (includes designing PCB boards in Kicad), etc. Some of these programs are available at:

<https://github.com/francois-berder>

Programming languages: C, C++, ARMv7-M assembly, Python, Bash, Go, Rust

LANGUAGES AND EXTRA CURRICULAR ACTIVITIES

Arts & Sports: Piano (10 years, Grade 8 – highest UK level), swimming, tennis, sailing, skiing

English: Fluent, **French:** Native, **Japanese:** Intermediate (JLPT Level 3)