

BOISSON BRICE

RTL / CPU Design Engineer
Graduate / Early Career Position - Sep 2024

+33 6 95 04 01 75
github.com/BriceBoisson
www.zraulix.fr
boisson.brice@outlook.com

brice-boisson
French
Sophia Antipolis, France
23 years old

PROFESSIONAL EXPERIENCE

CPU Design Engineer Intern

Arm (Company)

Feb 2024 – Aug 2024

Sophia Antipolis, France

- Enrolled in an internship as a **CPU Design Engineer** in the **L1 cache** design team of a next-generation **Arm mobile CPU**.
- Modeling**: Conducted research and investigations to model a method to predict **high power-consuming** events in the **L1 data cache**.
- RTL Design**: Implemented in a **high-performance CPU** a new module expected to reduce high power-consuming events by **21%**, according to benchmark performance tests.

Radar R&D Software Engineer Intern

Norbert Health (Startup)

Aug 2022 – Jan 2023

Paris, France

- Completed a full-time internship as research and development engineer intern for a health startup.
- R&D**: Read research paper and thesis to develop an algorithm to estimate the pulse rate of a patient using an **FMCW radar**.
- Digital Signal Processing**: Improved and analyzed a radar signal with digital signal processing technique and technology gave by **SciPy** python library.
- Firmware Engineering**: Modified radar **firmware** to extract more specific data from the radar.
- Data Engineering**: Developed and maintained a **quality assessment** system to test the efficiency of the algorithm and ensure to do not have regressive code.

Researcher Assistant

EPITA (University)

Feb 2022 – Jun 2022

Paris, France

- Collaborated as an assistant with the researcher of the robotics laboratory (SEAL) of EPITA, in the development of submarine drones and tools.
- System Development**: Ported project of the laboratory to use the **Yocto project** as **Linux distribution build system**.
- C++ Development**: Maintained legacy **Open CV** stereoscopic computer vision code.

Teaching Assistant

EPITA (University)

Sep 2021 – Jun 2022

Paris, France

- Taught **C#** and **Ocaml** to a class of **38** first year **students** of EPITA.
- Course Elaboration**: Created a midterm subject on **Object Oriented Programming**.
- Code Review and Test**: Reviewed and tested student code using **unit test** and **functional test**.

Full Stack Web Developer

EasTechnology (Startup)

Jul 2020 – Aug 2020

Thionville, France

- Full-time internship as a web developer in an early-stage food delivery Startup.
- Full Stack Development**: Developed a user interface in HTML, CSS, JavaScript and PHP, to let user make advanced search among the available restaurants and let the restaurant retrieve data through Firebase database.

EDUCATION

EPITA - Computer Science and Engineering School

Msc in Computer Science and Engineering with a major in **Embedded System**

Courses: ARM Programming, Linux Driver Programming, Computer Architecture, RTL Design

Sep 2019 – Aug 2024

Paris, France

Konkuk University

Undergraduate Exchange Student

Courses: System Programming, Network Programming, Sensors and Measurement Techniques

Aug 2023 – Dec 2023

Seoul, South Korea

Kyung Hee University

Undergraduate Exchange Student

Courses: Data Structure, Electronics Circuits and Design, Mathematical Programming, Engineering Programming

Feb 2021 – Jun 2021

Seoul, South Korea

PROJECTS

RISC-V CPU - Verilog - Designed a processor in **Verilog**, which implements the **RV32I RISC-V Instruction Set Architecture**.

Kernel - C - Wrote an educative **x86 (IA32i) kernel** with the goal to run a simple **shell**. The kernel uses **virtual memory**, manages **interruption** and can run up to **128 processes**.

Linux Driver - C - Implemented a **Linux driver** for raspberry pi that handles **SPI** communication with a MFRC522 module.

Basic ARM CPU - VHDL - Designed a basic **single cycle CPU** which implements 8 instructions from the ARM7tdmi such as: **ADDi**, **ADDr**, **BAL**, **BLT**, **CMP**, **LDR**, **MOV** and **STR**.

Posix Shell - C - Wrote a command line interpreter (shell) for **Linux**, that follows **POSIX rules** and the syntax of the shell language.

IRC Chat - C - Created an IRC chat made of a client and a server, which uses the **Linux sockets**, **polling** and **threads** functionalities.

OCR (Optical Character Reader) - C - Implemented and trained a homemade neural network able to recognize alphanumeric characters.

SKILLS

Programming Language: C, Verilog, SystemVerilog, VHDL, C++, Python, Bash

Software and Tools: Linux, Shell, Git, VSCode, Github, GitLab, Jira, Gcc, Makefile, ModelSim, Quartus, Yocto Project, Scipy, Numpy