# Julien MASTRANGELO
## French engineer in numerical electronics

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## 🎓 EDUCATION

**2019 – 2022**

**ISMIN | Mines de St-Etienne (Gardanne)**
Master of microelectronics and computer science engineering.
Majoring in **embedded systems**, specialisation in mobility and security. Analogic electronics, digital electronics, microcontroller systems. Embedded real-time computing, FPGA codesign.

**2021 – 2022**

**MSc Hybrid Electronics | Aix-Marseille University**
Stretchable electronics, sensors, organic optoelectronics, bioelectronics, micro-generators.

**2017 – 2019**

**CPGE MPSI-MP\* | Lycée Pothier (Orléans)**

## 🧑‍💼 WORK EXPERIENCE

**2022 – 2024 2 years**

**PhD Student | CEA-list (Paris-Saclay)**
Exploration of heterogeneous high data rate streamed and programmable architectures for real-time applications in nuclear instrumentation.
PhD student in Electronic Architectures, modelisation and data analysis at the CEA (French Alternative Energies and Atomic Energy Commission). I worked on **FPGA-GPU** heterogeneous architectures.

**2022 6 months**

**Engineer Intern | Polytechnique Montréal (QC, Canada)**
I worked on the implementation of a **neural network** (U-Net) on a **FPGA** target, using the FINN framework.

**2021 6 months**

**Side-Channel Attacks Intern | Qualcomm (Cork, Ireland)**
As an engineering intern at the Qualcomm security lab in Cork, I implemented **side-channel attack** techniques in order to add features to the lab in-house tools. I led practical experimentations with continuous improvements on industrial devices by looking for new solutions in the recent scientific literature.

**2017-2020 4 months**

**Summer jobs | Limpa nettoyages (France)**
Working for Limpa, I cleaned a high school in compliance with health department regulations.

## 💻 SKILLS

- **French**: native
- **English**: fluent
- **Italian**: intermediate

- **Coding skills**: VHDL, Codesign, embedded C, C++, Python, SQL, deep learning, web development

- **Engineering software**: Git, Vivado Design, ModelSim, STM32Cube, Proteus 8, Latex

## ⛵ HOBBIES / PROJECTS

- **VHDL modelisation and design on FPGA of the AES-128.** As a school project, I coded and implemented the four basic operations of the encryption of AES, the key expander function and the associated FSM.
- **Musician.** Trumpet, bass guitar and guitar player. I played an opera (Aïda from Verdi) in Orléans's Zénith.
- **Password wallet.** Password C-coded program to save passwords based on SHA-256 hash function and XOR-encryption. Source code is available on my GitHub.
- **Sailing & cooking.** With the sailing school Les Glénans, I volunteered as a chef on their base in Bonifacio.