

Hugo Cataldi, 23

Looking for a 3- to 5-month internship in Programming or Embedded Systems
Available to start from April to August 2025



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French



Driving licence

WORK EXPERIENCE

2022 – 2025

Embedded Systems Engineer Apprentice

Guinault S.A Orléans, France

<http://www.guinault.com/fr/>

Development of an advanced human machine interface to modernize and improve Guinault machines

- Designing and Creating a graphical interface in C++/Qt communicating via CAN
- Developing a customized Linux kernel with Yocto, keep boot times under 10s
- Developing 50 features on C/STM32 and updating BSPs
- Creating validation plans and unit tests
- Optimizing compilation processes to accelerate build times and reduce human error risks

2022 (10 weeks)

Research Internship

Laboratory Images, Signals and Intelligent Systems (LISSI) Lieusaint, France

<https://www.u-pec.fr/fr/recherche/laboratoires/laboratoire-images-signaux-et-systemes-intelligents-lissi-ea-3956>

- Studying and integrating AI modules for human gesture recognition and remote robot control using an NVIDIA Jetson
- Developing and implementing a multi-robot platform using ROS on three robots for student training in robotics.

EDUCATION

2022 – 2025

Engineering degrees in Embedded Systems Engineering

École des Mines de Saint-Étienne (EMSE) Saint-Etienne, France

<https://www.mines-stetienne.fr/formation/ingenieur-systemes-electroniques-embarques/>

- Studying embedded systems programming, integrated circuit design, electrical engineering, computer science and energy conversion systems
- Creating a robot using the PIC18F2520 microcontroller, involving hardware and software design with motor control, interrupts, ADC, I2C, state machines, and obstacle detection

2020 – 2022

Bachelor's in electronics and industrial computing - Major

Université Paris-Est Créteil (UPEC) Moissy, France

<https://www.u-pec.fr/fr/formation/but-genie-electrique-et-informatique-industrielle-geii>

- Developing a Space Invader game in C without using libraries
- Designing a PWM control board for a DC/DC converter
- Creating a PD2 AC/AC converter to control an RL load

PERSONAL PROJECTS AND ODD JOBS

- **Lumerical simulation chain** : Developing tools and processes using Python, Lumapi, and Jupyter to optimize and accelerate simulations
- **Game server** : Learning Java and Web services by myself to create a server hosting 235 people
- **Devops** : Optimizing Docker image to accelerate compilation time on Gitlab
- **Car repairs** : Learning mechanics by repairing cars and motorcycles
- **Jobs** : IT Technician, Automotive technician, Barman, Teleconsultant



Programming Languages

C / C++
Python
Java
VHDL
ASM
Linux Kernel
Web Languages
ROS



Software

Qt
Keil
Proteus
LabVIEW
Jupyter
Lumerical
MPLAB
SolidWorks
Vivado
GitHub/GitLab

Soft skills

Ability to popularize
Quick understanding
Synthesis skills
Team spirit

Languages

French – Native



English – B2 (675 TOEIC)



Spanish – Notions



Hobbies

Automotive mechanics
Programming
Video games
Sport (Futsal)