Alexia VERNIER
Embedded Software Engineer
Engineer in Applied Physics

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About Me

I am an enthusiastic and curious engineer looking for opportunities to challenge myself and grow my skills on demanding, meaningful and innovative projects. I am a strong team player and a fast learner, able to integrate and be productive in a new environment quickly.

28 years old single   *French Permis C*   *Driver licence*

Education

Master in Applied Physics
Minor in Microengineering
EPFL   2018-2020

Bachelor in Physics
EPFL   2014-2018

Skills

Programming

Data Analysis

Problem Solving

Control Systems

Embedded Systems

Simulations

CD/CI

Organisational skills

Real Time Control

Git

Team player

Presentation skills

Quality Assurance

Languages

French   Mother tongue

English   Fluent

German   B1

Chinese   A2

Interests

Science

Technology

History
XVth and XIIIth century reenactment

Art
Soft pastel, oil pastel, oil painting

Work & Experiences

Robotics Engineer
International Robotics Solutions   *Dec. 2024 - Feb. 2025*

I was in charge of strengthening autonomous docking and patrolling processes in order to automate testing and ensure compliance. I conducted modifications and corrections leading to a success rate increase of 93% for the docking and of 50% for the patrolling. During the investigation, I reported 13 bugs, including 3 critical ones, contributing to the quality of the product.

- ◦ C++ object oriented programming
- ◦ ROS 1 & ROS 2
- ◦ Testing automation for quality assurance

Embedded Software Engineer
Hive-Zox International SA   *Jul. 2022 - Nov. 2024*

I was in charge, with my team, of developing and validating a robust ultra-constrained, real-time firmware for IoT. I was involved in the development of the BLE layer, the drivers, the sensors and the higher level layers. I conducted data analysis, testing, compliance and research and development tasks, greatly contributing to the development and quality of the product.

- ◦ Real-time firmware programming in C
- ◦ Communication technology: Bluetooth and cellular
- ◦ Energy consumption anlysis and optimisation

Research Assistant
EPFL, Laboratory of Quantum Magnetism   *Jan. 2021 - Jun. 2022*

I was involved in two Innosuisse projects with the industry including one that I was in charge of and managing. I lead research in electromagnetism to develop new innovative technologies. I conducted and organised experiments, mechanical development, software development and safety analysis in order to create and commercialise revolutionising products.

- ◦ Control software programming in Python
- ◦ Finite element simulation (ANSYS & COMSOL)
- ◦ Research and design of experiments

Research & Development Engineer
KOMP-ACT SA   *Feb. 2020 - Dec. 2020*

I was in charge of designing improved electromagnetic actuators and develop the product road-map. I lead the initial programming the associated real time control software as well as conducting thorough product testing. During the initial development, I increased the actuator top speed by 100%, thus increasing the competitiveness of the product.

- ◦ Electromagnetic system development
- ◦ Real-time programming in C
- ◦ Testing platform development