Kilian POUDEROUX

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Final year Master's student in Microengineering at EPFL and CentraleSupélec.

With expertise in microsystems, nanotechnology, and computational science, I bring strong curiosity, organization, and autonomy to my work. I am eager to contribute to high-tech, fast-paced projects and am seeking a 6-month internship starting in **February 2026**.

EDUCATION AND ACADEMIC PROJECTS

2025 (2 months)

Laboratory of Applied Photonic Devices (LAPD), EPFL

Lausanne, CH

Project on Compact Multi-Plane Spatial Light Modulation for Optical Information Processing

→ Machine learning, Pytorch, lasers, optics, CUDA, SLURM

Developed and upgraded a compact optical system combining laser image processing with neural networks for enhanced optical transformations.

- Aligned and optimized a hybrid optical-computational setup using spatial light modulators
- Designed and tested deep learning diffusion models in PyTorch to guide optical processing

2024 -

École Polytechnique Fédérale de Lausanne, EPFL

Lausanne, CH

Master's degree in Microengineering, minor in Computational Science and Engineering

- → Optics, photonics, MEMS, AI, nanotechnology, microfabrication, HPC, quantum computing and simulations
- Development of an autonomous mobile robot: implementation of ML algorithms on embedded systems with computer vision
- Laboratory of Hybrid Photonics (HYLAB): Electrode Optimization for High-Q Resonators Using Field-Based Surface Analysis and CST Simulations

2022 - 2024

CentraleSupélec – Université Paris-Saclay

Saclay, FR

Double degree, engineering curriculum

Highly selective double degree between EPFL and CentraleSupélec: 1st and 2nd year of the engineering curriculum, followed by 2-year Master's degree at EPFL.

→ Mathematics, engineering, energy, finance, cloud computing, quantum physics, nuclear engineering, control

- Construction and development of an autonomous drone: following complex routes and retrieving objects
- Prediction of a city's electricity consumption using data science and machine learning (EDF partnership)
- Data analysis and development of prediction models for catenary lifting (SNCF partnership)

2019 - 2022

École Polytechnique Fédérale de Lausanne, EPFL

Lausanne, CH

Bachelor's degree in Mechanical Engineering

→ Programming, dynamical systems, numerical analysis, material science, fluid mechanics

Average: 5.41/6

PROFESSIONAL AND ASSOCIATIVE EXPERIENCE

2024 -

Association EPFL Spacecraft Team

Lausanne, CH

Team leader - Ground Segment

Student association focused on the design, development, and launch of innovative satellite and space related projects. Lead a team of 8 to develop and operate ground stations for satellite communications.

- Develop and assemble an X-band antenna, the first student-operated system of its kind.
- Design and implement the antenna's control software using Rust and Linux.
- · Contribute to a digital twin for satellite modeling, enabling faster design iterations and performance optimization.
- · Perform tradeoff analyses on critical satellite parameters, guiding key design decisions and improving mission reliability.

2022 - 2024

Association Forum CentraleSupélec

Saclay, FR

Event & Quality Manager

Student association organizing a major business forum with 200+ companies and a turnover of €1.3 million.

- Manage relations with partner companies and coordinate event logistics for exhibitors and participants.
- Ensure quality management of the event, including preparation of the annual audit and compliance with ISO standards.
- Develop automation algorithms to streamline repetitive tasks, reducing workload and improving team efficiency

2021 – 2025

École Polytechnique Fédérale de Lausanne, EPFL

Lausanne, CH

Teaching Assistant

SKILLS AND INTERESTS

Languages French: native English: C1 Italian: A2

Programming Python (Numpy, Pandas, Scikit, Pytorch, OpenCV) – C – Git – SQL – C++ – Bash – CUDA – MPI

Software MS Office – Matlab – LabVIEW – Catia – Arduino – Docker – Raspberry Pi

Sports Volleyball Basketball Kitesurf Ski Foil Tennis

Interests Astronomy Science Mythology Travel