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)
Lausanne, CH

Laboratory of Applied Photonic Devices (LAPD), EPFL
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 –
Lausanne, CH

École Polytechnique Fédérale de Lausanne, EPFL
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
Saclay, FR

CentraleSupélec – Université Paris-Saclay
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
Lausanne, CH

École Polytechnique Fédérale de Lausanne, EPFL
Bachelor's degree in Mechanical Engineering
→ Programming, dynamical systems, numerical analysis, material science, fluid mechanics
Average: 5.41/6

PROFESSIONAL AND ASSOCIATIVE EXPERIENCE

2024 -
Lausanne, CH

Association EPFL Spacecraft Team
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.
- Contribute to a digital twin for satellite modelling, enabling faster design iterations and performance optimization.
- Perform trade-off analyses on critical satellite parameters, guiding key design decisions and improving mission reliability.

2022 – 2024
Saclay, FR

Association Forum CentraleSupélec
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
Lausanne, CH

École Polytechnique Fédérale de Lausanne, EPFL
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	