

# Martin Daigne

Robotics Master's Student — Data Science Minor

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## Education

<b>MSc</b>	<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> , Robotics - Data Science minor	Switzerland
	<ul style="list-style-type: none"> <li>Core courses: Machine Learning, Deep Learning, Reinforcement Learning, Convex Optimization, Model Predictive Control, Learning and Adaptive Control for Robots, Mobile Robotics, Robotics for Manipulation, Applied Data Analysis, Modern Natural Language Processing...</li> </ul>	2024 – 2027
	<b>Delft University of Technology (TU Delft)</b> , Exchange - Mechanical/Aerospace Engineering	Netherlands
		2023 – 2024
<b>BSc</b>	<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> , Mechanical Engineering	Switzerland
	<ul style="list-style-type: none"> <li>Grade: 5.57/6</li> <li>Core courses: Analysis, General Physics (Mechanics, Thermodynamics, Electromagnetics), Numerical Analysis, Dynamical Systems, Continuum Mechanics, Structural Mechanics, Nonlinear Mechanics, Fluid Mechanics, Experimental Fluids, Heat and Mass Transfer, Control Systems, MEMS, Intelligent Vehicles...</li> </ul>	2021 – 2024

## Experience

	<b>EPFL, Laboratory of Intelligent Systems (LIS)</b> , Semester Project	Switzerland
	<ul style="list-style-type: none"> <li>Design and implementation of diffusion policies (DDPM, DDIM, score matching, flow matching) to generate control trajectories for a morphing drone controlled with an MPPI.</li> </ul>	Feb 2026 – June 2026 5 months
	<b>EPFL, Computational Robot Design and Fabrication Lab (CREATE)</b> , Semester Project	Switzerland
	<ul style="list-style-type: none"> <li>Data-Enabled Model Predictive Control for Compliant Manipulators: I built a simulation in Python and an adaptive MPC controller for a soft, tendon-driven arm using CasADi and acados for real-time deployment.</li> </ul>	Sept 2025 – Jan 2026 5 months
	<b>EPFL, Unsteady Flow Diagnostics Laboratory (UNFoLD)</b> , Summer in the Lab Internship	Switzerland
	<ul style="list-style-type: none"> <li>Design, building, and analysis of a random gust generator to improve realism in wind turbine experiments.</li> </ul>	June 2024 – Aug 2024 3 months
	<b>Geneva University (UNIGE), Athena Program</b> , Student Researcher	Switzerland
	<ul style="list-style-type: none"> <li>1st semester: Set Theory and Logic in Mathematics alongside high school.</li> <li>2nd semester: Research on Kuratowski's Theorem in Set Theory.</li> </ul>	Sept 2020 – June 2021 10 months
	<b>IPGP Paris Physics Institute</b> , Intern	France
	<ul style="list-style-type: none"> <li>Analysis of seismic waves of the Mars InSight seismometer SEIS. Mission overview and attendance at coordination meetings.</li> </ul>	Nov 2018 – Nov 2018 1 month
	<b>Aether Swiss Kite</b> , Control Team Leader	Switzerland
	<ul style="list-style-type: none"> <li>Lead the data acquisition, system identification, and control of the kite to achieve optimized automated control.</li> </ul>	2025 – 2026 1 year
	<b>Aether Swiss Kite</b> , Electrical and Control Engineer	Switzerland
	<ul style="list-style-type: none"> <li>1st semester: Design, building, and integration of a position sensor of the kite.</li> <li>2nd semester: Data acquisition and filter implementation (EKF, UKF) to localize the kite.</li> </ul>	2024 – 2025 1 year

**EPFL Rocket Team**, Recovery System Engineer Switzerland  
• Design and testing of the parachute of the Nordend rocket of the EPFL Rocket Team for the European EUROOC competition. 2022 – 2023  
1 year

**EPFL**, Teaching Assistant Switzerland  
• Teaching assistant in Introduction to Computer Science, Analysis II, Fluid Mechanics, and Model Predictive Control. 2022–2023 / 2024–2025

## Awards

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**Deep Learning Object Detection Competition** 2025  
Winner of the Deep Learning Object Detection competition 2025 in the Image Analysis and Pattern Recognition course at EPFL.

**EPFL Space Race** 2022  
Winner EPFL Space Race 2022.

## Certificates

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**Cambridge English Advanced Certificate** 2020  
English, C1 level.

**Dutch NT2** 2020  
Dutch.

## Skills

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**Coding Languages:** Strong experience in Python (PyTorch, Pandas, scikit-learn, ...). Worked on Matlab and knowledge in C/C++ (mostly for Arduino).

## Languages

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**French:** Mother tongue

**English:** C1

**Dutch:** Intermediate