



# Marie Ethvignot

Engineer student in Robotics

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Master student in Robotics at EPFL with a focus on space technologies seeking a Master thesis for October 2025.

## EDUCATION

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**Master of Science in Robotics/ Minor in Space Technologies** 2023 - current  
*Swiss Federal Institute of Technology in Lausanne (EPFL)*

Relevant Courses: Mobile Robotics, Aerial Robotics, Machine Learning, Computer Vision, Data Analysis, Image processing, Model Predictive Control, Space mission design, Space systems and spacecraft design.

**Bachelor of Science in Microengineering** 2019 - 2023  
*Swiss Federal Institute of Technology in Lausanne (EPFL)*

## EXPERIENCE

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**Software Engineer Mission Analysis Intern, Rocket Factory (RFA)** (Augsburg, Germany) 02/2025 - current  
Trajectory design and optimization of satellite deployment strategies for the first rocket of the company to be launched later this year.

**Teaching Assistant, EPFL** (Lausanne, Switzerland) 2022 - 2025  
Teaching Assistant in three courses: Numerical Analysis, Materials Science and Microfabrication.

**Clean Space Training Course, European Space Agency (ESA)** (Redu, Belgium) 03/2024  
One-week training course given by ESA experts regarding key approaches to consider and reduce the environmental impact across the entire life cycle of a space mission and to minimize the production of space debris.

**Engineer Assistant in the Mechanical Department, ARESIA** (Paris, France) summer 2023  
Two-month summer job at ARESIA, a French group specialized in the design and manufacture of equipment for the civil and defense aeronautical industry. Development and optimization of a Python program to automate the calculation chain on ANSYS models for the Mechanical department of the group.

**Machining training, Ecole technique des métiers de Lausanne (ETML)** (Lausanne, Switzerland) 08/2022  
Two-week hands-on training at a technical school specialized in mechanical manufacturing to learn how to use the main machines for processes such as milling, turning, drilling, tapping or assembling.

**Summer school, Brown university** (Providence, RI, USA) 07/2018  
Participation in a summer school focusing on scientific courses in an international and multicultural setting.

## NOTABLE PROJECTS

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**Gas source localization with Gaussian Markov Random Field (DISAL, EPFL)** 09/2024 - current  
Integration of an optimization-based field estimation algorithm (Gaussian Markov Random Field) to Gas Source Localization tasks of a mobile robot (in Python and ROS).

**Robust navigation through dust storms on Mars (AQUA Laboratory, EPFL)** spring 2024  
Evaluation of the performance of Visual Odometry (VO) algorithms in dynamically occluded scenes for robotic space exploration; with the aim of developing a robust VO algorithm for extreme conditions (Python).

## EXTRACURRICULAR WORK

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### **Member of the EPFL Zero Emission Group**

*09/2024 - current*

Learning how to use Life Cycle Assessment (LCA) tools, in order to perform one on a project of the EPFL Rocket Team, to assess the environmental impact during every phase of the project.

### **President of the student association "FestiFood", EPFL**

*2023 - 2024*

Organization of the EPFL Food Festival, an event organized by students offering food, music and games. Supervision of the overall organization, management of the sub-teams and leader of the sponsoring team.

### **Member of the space robotics student association "EPFL Xplore"**

*2021 - 2022*

Interdisciplinary student association aiming at building a Mars rover for the annual European Rover Challenge. Part of the Avionics team, in particular in charge of designing the PCBs of the rover.

### **Member of the CTBTO Youth Group**

*2018-2021*

Following a one-week observation internship, joined the Youth Group that supports and promotes the Comprehensive Nuclear-Test-Ban Treaty Organization, an international organization based in Vienna which aims at putting an end to nuclear explosions.

### **Coach for first-year students, EPFL**

*2020 - 2021*

Mentoring of first-year students and organization of social events.

## SKILLS AND INTERESTS

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<b>Languages</b>	French (Native speaker), English (Bilingual), German (Advanced), Arabic (Notions)
<b>Programming languages</b>	C++, Python, MATLAB
<b>Software</b>	Linux, git, Bash/Shell, ROS (basics), Latex, Pytorch, Conda, CATIA, Webots
<b>Soft Skills</b>	Teamwork, Communication (oral and written), Rigor, Curiosity, Dedication
<b>Hobbies</b>	Piano, running, skiing