# Benjamin Noah Lugon-Moulin

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in My LinkedIn

**Robotics Intern @ NASA Ames Research Center**
**M.S. in Robotics & Minor in Space Technologies @ EPFL, Switzerland**
Actively seeking full-time roles in **Robotics/Aerospace Engineering**, available from **November 2024**

## 🎓 Education

**Master of Science (M.S.) in Robotics with Minor in Space Technologies**
*Ecole Polytechnique Fédérale de Lausanne (EPFL)*
• **3.7 GPA**, student associations: Mars rover design team, exchange student network
• Thesis: In-Situ Slip Learning for Lunar Rover Localization, conducted at **NASA Ames**

Sep 2022 - Oct 2024
*Lausanne, Switzerland*
*Mountain View, CA, USA*

**Bachelor of Science (B.S.) in Mechatronics**
*Ecole Polytechnique Fédérale de Lausanne (EPFL)*
• 1-year academic exchange at **University of Waterloo** (2021-2022)
• Highly multidisciplinary curriculum in mechanical, electrical, and computer engineering

2019 - 2022
*Lausanne, Switzerland*
*Waterloo, ON, Canada*

**High School with Specialization in Math and Physics**
*Lycée-Collège de l'abbaye de St-Maurice*
• Built a **quadruped robot** for graduation project. Awarded Math and Physics prizes

2015 - 2019
*St-Maurice, Switzerland*

## 💼 Work Experience

**Robotics Intern for the VIPER Mission @ NASA Ames Research Center**
• Developed a learning algorithm that **reduces rover localization error** by over **41%**
• Actively assisted in rover **nighttime testing**, responsible for running **data collection**
• Conducted **statistical analysis** to provide rover drivers with **mission operation guidelines**

Apr 2024 - Oct 2024
*Mountain View, CA, USA*

**Research Assistant @ Laboratory of Intelligent Systems (EPFL)**
• Augmented GPS-based **localization** of a **drone** with **Visual Odometry (VO)**
• Designed hardware for **onboard camera** and integrated VO software with **ROS**

Sep 2023 - Jan 2024
*Lausanne, Switzerland*

**Licensed Tennis Instructor and Tournament Referee @ Home Tennis Club**
• **6+ years** of experience coaching kids and adults at leisure and competition levels
• Actively involved in club through **leading interclubs team** and volunteer staffing of **5+ yearly events**

2016 - 2023
*Leysin, Switzerland*

## 🚀 Projects & Extracurriculars

**EPFL's Interdisciplinary Robot Competition**
• Built a fully autonomous toy-collecting robot in a **team of 3 students.** Achieved **2nd place** and **design award**
• Lead for electrical component selection+integration, **C++** low-level programming, and perception+actuation

2023

**Xplore Mars Rover Student Design Team**
• Designed in **Matlab & Simulink** a PID tuner for the rover's 6 DOF robotic arm
• Generated with **Blender** a synthetic 6D pose dataset of custom objects to be manipulated by the robotic arm

2023-2024

**Rocket Recovery System Lead**
• Designed and programmed in **C++** onboard avionics for rocket **apogee detection** and **parachute recovery**
• Validated apogee detection algorithm by flying avionics on a drone. Rocket recovered successfully for all field tests

2023

## ⭐ Skills

**Programming**: Python | PyTorch | OpenCV | C++ | C | Matlab | ROS | Linux | Bash scripting
**Data Analysis and Visualization**: Foxglove | Plotjuggler | Jupyter Notebook
**CAD | Prototyping**: Solidworks | Catia | Fusion360 | Blender | 3D printing | soldering | KiCad
**Embedded Systems**: Arduino | ESP32 | FPGA | Raspberry Pi | Nvidia Jetson
**Machining**: laser cutting | turning | milling | welding
**Soft Skills**: report writing | public speaking | teaching | event organizing and staffing
**Additional**: experienced **drone** and **model plane pilot** (12+ years)

## 🗨️ Languages

**English** (Native)
**French** (Native)
**German** (B2)