

Mathéo Taillandier

📍 Lausanne, Switzerland ✉ matheo.taillandier@epfl.ch ☎ +41 76 263 45 62 in matheo-taillandier

Looking for an internship in Robotics

Profile

Robotics Master's student at EPFL with a strong foundation in microengineering and deep interest in autonomous systems, reinforcement learning, and real-world deployment. Curious and hardworking, I have lived in three different countries, developing the ability to adapt swiftly to new environments. Always pushing my limits, I quickly learn things and love to dive into unknown subjects, easily learning new techniques and tools to overcome challenges.

Education

Ecole Polytechnique Fédérale de Lausanne Lausanne, Switzerland
Master in Robotics (orientation: mobile robotics) Sept 2024 – Present

- **Coursework:** Model Predictive Control, Reinforcement Learning, Learning and Adaptive Control, Mobile Robotics (Computer vision, Global Planning, Filters, Control), Machine Learning, Legged Robots

Ecole Polytechnique Fédérale de Lausanne Lausanne, Switzerland
Bachelor in Microengineering, GPA: 4.88/6 Sept 2021 – June 2024

- **Coursework:** Advanced Mathematics, Numerical analysis and optimisation, Object-oriented programming, Statistics for data science, Physics, Microcontrollers, Electronics, Materials, Conception of Mechanisms

Lycée Rochambeau - The French International School Washington D.C., USA
Baccalauréat OIB Mention Très Bien, GPA: 17.73/20 Sept 2018 – July 2021

Experience and Projects

Power Grid Vulnerability Detection with RL Lausanne, Switzerland
IMOS Laboratory, EPFL April 2025 - present

- Developed a graph Reinforcement Learning framework to identify weaknesses in power grids by simulating adversarial attacks. Focused on maintaining grid stability and preventing blackouts.

Aerial Robotics Lausanne, Switzerland
EPFL Feb 2025 - May 2025

- Developed an algorithm to identify gate positions in 3D space from a single RGB drone camera.
- Designed a path planning algorithm based on minimum jerk trajectory to ensure smooth motion.
- Tested both in simulation and real world using Python and the CrazyFlie drone.

Deep Learning for Autonomous Vehicles Lausanne, Switzerland
EPFL Feb 2025 - May 2025

- Developed a Deep Neural Network to learn how to predict the future trajectory of a car from history information and a dashcam image.
- Used auxiliary task training and real images to improve the capacity of the Neural Network and test its robustness.

Car Control with Model Predictive Control Lausanne, Switzerland
EPFL Nov 2024 - Jan 2025

- Model Predictive Control of a car capable of overtaking, adjusting its speed, and avoiding collisions.
- Used Linear MPC, LQR, Robust Tube MPC, and Nonlinear MPC.

Dielectric Elastomer Actuator (DEA) Research Project Neuchâtel, Switzerland
Microcity, EPFL Sept 2024 – Jan 2025

- Characterization of a DEA using a test bench (i.e. DAQ, Oscilloscope) and Supervised Learning
- Micrometer control of a DEA through Reinforcement Learning and PID.

Bipedal/Quadrupedal Robot Control Projects

EPFL

Lausanne, Switzerland

Sept 2024 - Jan 2025

- Designed robust bipedal robot walking control using Divergent Component of Motion
- Designed robust quadrupedal robot walking/running control using Reinforcement Learning and Central Pattern Generator

Autonomous Vehicle Project

EPFL

Lausanne, Switzerland

Sept 2024 - Dec 2024

- Programmed a mobile robot to navigate through an environment with obstacles to reach a given goal.
- Used Computer Vision on external camera and robot-computer communication to increase computing power and give additional information.
- Used Dijkstra's algorithm and Potential Fields for path planning and obstacle avoidance.

Technical Director

Fréquence Banane, EPFL

Lausanne, Switzerland

May 2024 - May 2025

- Responsible for maintaining and improving the servers for a radio association.
- Responsible for the audio and video systems of the radio studios and multiple events.
- Responsible for leading and coordinating multiple teams throughout the year to organize various events.

Technical Consultant

Junior Entreprise, EPFL

Lausanne, Switzerland

Sept 2023 - Dec 2023

- Wrote a report concerning the design and deployment of a technical product for a startup.

Skills and Languages

Programming Languages: C++, C, Python, Matlab, Assembly, HTML, CSS

Technologies: PyTorch, Keras, Linux Ubuntu, OpenCV, Git, OpenAI Gym, Stable-Baselines 3, Catia, Simulink, LTspice, Streamlit, FastAPI, Excel, Microcontrollers, Communication Protocols.

Languages: French (Native), English (Fluent), Spanish (Intermediate)