

Patrick Benito Eberhard



Nationalities: Spanish & German

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Education

Stanford University

Incoming Visiting Researcher

Palo Alto, U.S.
Feb. – Aug. 2025

- Investigating the control of infinite-dimensional systems using graph neural networks.

ETH Zurich

MSc in Robotics, Systems and Control

Zurich, Switzerland
2023 – 2025

- Grade: 5.96/6.0 (current).
- Received the Excellence Scholarship in 2023.

Massachusetts Institute of Technology

Graduate Visiting Student

Boston, U.S.
Feb. - July 2023

- Grade: 5.0/5.0.

ETH Zurich

BSc in Mechanical Engineering

Zurich, Switzerland
2019 – 2022

- Grade: 5.83/6.0, Valedictorian.
- Received the Outstanding Bachelor Awards in 2020 and 2023.

Experience

Sevensense Robotics

Robotics Engineer Intern

Zurich, Switzerland
June – Dec. 2024

- Developed a testing tool for ABB Earn-out Target tests using the VDA5050 protocol (Python)
- Implemented a multi-agent resource manager API together with the Infrastructure team to coordinate the deployment of robots within a shared space (Rust)
- Created automated tests for repeatability of the MPC controller for precise docking and positioning operations (Python, SQLAlchemy, Pandas)
- Developed a safety trigger for the vehicles to ensure collision avoidance through Lidar readings (C++, ROS)
- Migrated packages from the software stack from ROS1 to ROS2 (Python, C++, APT, Linux)

IDSC, ETH Zurich

Research Assistant

Zurich, Switzerland
Jan. – Dec. 2024

- Developed a novel planner algorithm for coverage control that adapts to nonlinear systems with time-varying density functions (C++, Python, ROS).
- Published a paper on the IEEE IROS conference in collaboration with Stanford (arxiv.org/abs/2404.01550).
- Working on a journal article as the first author on optimal coverage control for periodic and non-periodic densities.
- Developed a Gaussian Process based Model Predictive Contouring Control framework on the IDSC go-kart platform (ROS2, C++) (Grade: 6.0/6.0).

ETH Zurich

Teaching Assistant for Signals and Systems

Zurich, Switzerland
Sept. 2023 – Dec. 2024

- Developed a platform for automated programming exercises and restructured the entire learning concept of the course. Currently leading a team of teaching assistants (Code Expert, Python, Unit testing)
- Increased the course participation by 50%, leading to a registration of 224 students.
- Received the Outstanding Teaching Assistant Award from ETH Zürich for my duty.
- Performed office hours and recitations in a lecture room in front of more than 200 students, developing communication and public speaking skills.

Languages

German (Native)	██████████
Spanish (Native)	██████████
Catalan (Native)	██████████
English (Proficient)	██████████
Italian (Beginner)	███

Skills

- 🔗 Python · C++ · Rust · Js · SQL
- 🔗 Pytorch · Git · Docker
- 🗣️ Public speaking · Project Man.
- 📊 Data analysis · Strategy
- 🏊 Open-water swimming · Sailing

Intralink

Founder & CEO

Zurich, Switzerland

2019 – Now

- CEO of a small tech startup that develops B2B software as a service (SaS) solutions to improve business efficiency.
- Created Mealcheck, a web application for student house meal planning currently used by several European clients (Vue, Js).
- Invented Buenobot, an automated AI Whatsapp Business API chatbot that increased customer interaction and enhanced recurrent sales of our customers through WhatsApp (Gemini, Python).

e-Sling, Cellsius

Software Engineer

Zurich, Switzerland

Sept. 2021 – Dec. 2022

- Developed a four-seater electric aircraft of 950kg and a hydrogen fuel cell power train in a team of 8 students.
- Led the software development for the main control unit, human-machine interface, and battery management system. Programmed in C, Python, Matlab on the STM32 and RaspberryPi.
- Developed a novel real-time data streaming tool for CAN messages used by the entire team.
- Led the fundraising campaign of e-Sling, collecting up to 10'000 CHF from private investors, demonstrating both technical expertise and business development skills. Interacted with potential investors such as Microsoft and Airbus.
- Restructured the website design of e-Sling and automated payment processes. Led media ad campaigns.
- Participated in the maiden flight, covered by Swiss national television (SRF) and newspapers (20 Minuten).
- Performed several test flights as co-pilot of our self-developed aircraft.
- Supervised the following generations on the development of the battery management system software.

ETH Zürich

Teaching Assistant for Mechanics I, Mechanics II, Dynamics, and Quantum Mechanics

Zurich, Switzerland

Sept. 2020 – Dec. 2022

- Taught over four courses since my second year of Bachelor studies.
- Participated in the design and correction of exams.
- Achieved an average audience of 70 students per session.

Institute of Astrophysics of the Canary Islands (IAC)

Researcher

Atlas, Morocco

Aug. 2019

- Selected to assist a group of researchers to analyze the Perseid meteor shower.
- Enabled to predict the incident angle and height of disintegration of meteors.
- Fully sponsored by a performance grant from Joves i Ciencia.

Honours and Awards

ETH Zürich

Outstanding D-MAVT Teaching Award

Zurich, Switzerland

Mar. 2024

- Received recognition for exceptional teaching performance as a Teaching Assistant.

ETH Zürich

Excellence Scholarship and Opportunity Programme

Zurich, Switzerland

Sept. 2023 – 2025

- Performance-based scholarship awarded to less than 1% of applicants and worth 36'000 CHF.

ETH Zürich

Outstanding D-MAVT Bachelor Award

Zurich, Switzerland

Sept. 2020 and Sept. 2023

- Achieved the highest GPA out of 450 students in the Bachelor's program and first-year examinations.

Swiss School of Barcelona

Prize for the Best Matura Diploma

Barcelona, Spain

June 2019

- Recognized for obtaining the highest score on the Matura diploma (6.0/6.0).

Catalunya La Pedrera Foundation

Youth and Science

Barcelona, Spain

2017–2019

- Science scholarship for high-performant Spanish students covering three stays at different institutions.