

Simon Bauer

AEROSPACE ENGINEERING STUDENT

Washington, DC

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Education

ISAE-SUPAERO

M.Sc. in Aerospace Engineering

Toulouse, FR

Sept 2023 - Sept 2025

• Space Systems Major

- Research Project: Spacecraft maneuver design under uncertainty in the Saturn-Enceladus system
- Master Thesis at the University of Maryland

ETH Zurich

B.Sc. in Mechanical Engineering

Zurich, CH

Sept 2019 - June 2023

• Specialization in Design, Mechanics and Materials

- **Elective Courses:** Computational Mechanics I and II (Linear and Non-linear FEA), Light Structures, Structures Lab, Materials for Engineers, Continuum Mechanics I, Control Systems II, System Modelling, MAD (Models, Algorithms and Data), Manufacturing Engineering
- Thesis in CMAS-Lab

AHS Kollegium Kalksburg

Vienna, AT

High School

2010 - 2018

- Graduated with Distinction
- High school thesis "Physics of Paperplanes": 2nd Place at "Hans Riegel Fachpreis" in Physics, 2nd Place at "Luftfahrtspreis" from FH Joanneum
- Took part in Erasmus+ research project about the production of biogas out of agricultural waste

University Projects

Master Thesis

College Park, USA

University of Maryland

April 2025 - Sept 2025

- Master Thesis in Prof. John Martin's Machine Learning for Dynamical Systems group
- Real-time training of PINN-Gravity models around small bodies using PINN embedded within a Kalman Filter
- Mapping of PINN-Uncertainty using conformal prediction

Research Project

Toulouse, FR

ISAE-SUPAERO

Jan 2024 - March 2025

- Spacecraft maneuver design under uncertainty in the Saturn-Enceladus system
- Maneuver optimization modeling state uncertainties with Gaussian mixtures and incorporating reinforcement learning

Bachelor Thesis

Zurich, CH

ETH Zurich

Feb 2023 - June 2023

- Bachelor Thesis in Prof. Paolo Ermanni's Composite Materials and Adaptive Structures group
- Investigation of failure mechanisms of thin-ply carbon fiber thermoplastic angle-ply laminates

Light Structures Lab

Zurich, CH

ETH Zurich

Sept 2022 - Dec 2022

- Design, development, manufacturing and testing of a wing spar in a group of 3 students
- Material used: Glass Fibre reinforced composite with thermoplastic matrix

Work Experience

ARIS

Zurich, CH

Structural Engineer & Coach

May 2022 - June 2023

- Project Nautilus - an UUV to explore Enceladus' icy oceans
- Development of the Buoyancy Control Unit
- Coached the structures team, providing technical guidance and supporting team development and problem-solving

Pankl Racing Systems

Kapfenberg, AT

Intern

Jan 2020 - Feb 2020

- Experiencing different metalworking techniques on parts for high-tech applications such as: Formula 1, Hypercars

Skills / Interests

Technical Skills

Python, Machine Learning, Matlab, CAD Design in Siemens NX, \LaTeX (Overleaf), Microsoft Office

Soft Skills

Time Management, Teamwork, Problem-solving, Product Development, Creativity

Interests

Rowing, Mountaineering, Running, Photography, Motorcycle, Cooking

Languages

German: Native proficiency

English: C1

French: A2

Spanish: A2