

# Peter Werner

Citizenship: Swiss and US | [wernerpe@mit.edu](mailto:wernerpe@mit.edu)

[LinkedIn](#) | [Google Scholar](#) | [wernerpe.github.io](https://wernerpe.github.io)

## EDUCATION

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### Massachusetts Institute of Technology (MIT)

*Ph.D. in electrical engineering and computer science in Prof. Daniela Rus' group*

Cambridge, MA

Sep. 2021 – ...

### Eidgenössische Technische Hochschule Zürich (ETHZ)

*Bachelor in Mechanical and Process Engineering, focus on mechatronics*

*Masters in Robotics, Systems and Control, focus on learning and control.*

Zürich

Sep. 2016 – May 2020

Sep. 2020 – May 2021

### University of Pennsylvania (UPenn)

*Exchange Semester at UPenn counting towards my MSc degree at ETHZ.*

Philadelphia

Jan. 2020 – May 2020

### Gymnasium and Military Service

*Gymnasium Kirchenfeld Matura in Physics and applied Mathematics, one year military service*

Bern and Zürich region

Aug. 2013 – May 2016

## PROJECT AND WORK EXPERIENCE

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### ANYmal learns Badminton | Python, C++, Reinforcement Learning | Prof. M. Hutter

Mar. 2021 – Sep. 2021

- For my master's thesis I used deep reinforcement learning in Nvidia Isaac Gym to train ALMA C (ANYmal with arm) to play a simplified version of badminton. (Robotic Systems Laboratory, ETHZ)

### Vision-Based Sensing | Python, C++, Computer Vision | Prof. R. D'Andrea

Jan. 2019 – Sep. 2019

- For my bachelor's thesis I developed and implemented vision-based proprioceptive sensing for an inflatable linear soft actuator at the Institute for Dynamical Systems and Control (ETHZ). → [Paper](#), [Video](#)

### Research Assistant | Python, C++, ROS, Optimization, Machine Learning

Sep. 2019 – May 2020

- Modeling of residual dynamics of VoliroX drone using Gaussian Process Regression and Locally Weighted Projection Regression at the Autonomous Systems Lab (ETHZ). My work included the implementation of an optimization based compensation scheme to reduce the effects of the residual dynamics.
- Implementation of a model predictive contouring controller for autonomous racing on the F1TENTH platform at mLab, UPenn: [Github](#)

### Undergraduate Teaching Assistant

Sep. 2018 – May 2019

- Held weekly recitations for courses in Mechanics, Dynamics and Quantum Mechanics for roughly 30 students
- Was selected as one of the best TAs for Quantum Mechanics and asked to hold an exam preparation course

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, Matlab

**Frameworks and Libraries:** ROS, pandas, NumPy, Matplotlib, OpenCV, pyTorch, keras, CASADI, ForcesPRO, gym

**Developer Tools:** Git, Docker, Visual Studio, PyCharm, CMake

**Engineering Tools:** Linux, Solidworks, Siemens NX, L<sup>A</sup>T<sub>E</sub>X, MS Office

## AWARDS & PRIZES

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### 2x Outstanding D-MAVT Bachelor Award (1st year, overall)

ETH Zürich, Sep. 2017 & 2020

Received once for achieving one of the top 5 grade averages out of 543 students on the first year examinations and a second time for graduating with one of the top 5 GPAs out of 262 graduates.

### SGA Förderpreis

SGA, Nov. 2019

Award for the best Bachelor's Thesis in the field of Automatic Control issued by the Swiss Society for Automatic Control (Schweizerische Gesellschaft für Automatik, SGA)

### Excellence Scholarship & Opportunity Programme

ETH Zürich, Mar. 2020

Merit-based full-ride scholarship throughout the whole Master's program, awarded by the rector of ETH.

**WAFR 2022 Best Paper Award**

WAFR, Jun. 2022

Award for the best paper accepted to the 15th international Workshop on the Algorithmic Foundations of Robotics (WAFR). Title: *Finding and Optimizing Certified, Collision-Free Regions in Configuration Space for Robot Manipulators*.

**ICRA 2023 Best Workshop Paper Award**

ICRA, Jun. 2023

Award for the best paper at the Multi-Robot Learning workshop at ICRA 2023. Title: *Dynamic Multi-Team Racing: Competitive Driving on 1/10-th Scale Vehicles via Learning in Simulation*

**ADDITIONAL**

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**Languages:** English (native), German (proficient), Swiss German (native), French (working proficiency)

**Interests:** Running, hiking, badminton, skiing, comics, curating memes