Peter Werner

Citizenship: Swiss and US | wernerpe@mit.edu
LinkedIn | Google Scholar

Education

Massachusetts Institute of Technology (MIT) — Cambridge, MA
Ph.D. in electrical engineering and computer science in Prof. Daniela Rus' group — *Sep. 2021 – ...*

Eidgenössische Technische Hochschule Zürich (ETHZ) — Zürich
Bachelor in Mechanical and Process Engineering, focus on mechatronics — *Sep. 2016 – May 2020*
Masters in Robotics, Systems and Control, focus on learning and control. — *Sep. 2020 – May 2021*

University of Pennsylvania (UPenn) — Philadelphia
Exchange Semester at UPenn counting towards my MSc degree at ETHZ. — *Jan. 2020 – May 2020*

Gymnasium and Military Service — Bern and Zürich region
Gymnasium Kirchenfeld Matura in Physics and applied Mathematics, one year military service — *Aug. 2013 – May 2016*

Project and Work Experience

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

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, LaTeX, MS Office

Awards & Prizes

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
Full scholarship and mentorship throughout the whole Master's program, awarded by the rector of ETH.

Additional

Languages: English (native), German (proficient), Swiss German (native), French (working proficiency)
Interests: Running, Hiking, Badminton, Skiing, Politics