Curriculum Vitæ – Klemens Iten

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Contact: (+41)79 836 9895 ◇ kiten@ethz.ch – **Info:** DoB April 1^{st}, 1999 ◇ Swiss National
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I am a Master's student in Robotics, Systems and Control at ETH Zürich broadly interested in control and learning for robotics, with experience in both mechanical hardware and software. Currently, I am searching for a Master's thesis topic (March 2025 — August 2025), an internship or PhD opportunity (from late 2025).

EDUCATION

Swiss Federal Institute of Technology, ETH Zürich *September 2022 – Present*
Master of Science in Robotics, Systems and Control

- Focus on Advanced Control Methods (Optimal Control, Model Predictive Control) as well as Machine Learning and Artificial Intelligence in Robotics with the following relevant courses:
  - Probabilistic Artificial Intelligence
  - Dynamic Programming and Optimal Control
  - Planning and Decision Making for Autnomous Robots
  - Advanced Model Predictive Control
  - Recursive Estimation
  - Perception and Learning for Robotics

- Exchange semester at Northwestern University, Chicago (March 2023 – June 2023) with the following relevant courses:
  - Active Learning in Robotics
  - Deep Reinforcement Learning
  - Deep Learning Discrete Calculus
  - Advanced Mechatronics

Swiss Federal Institute of Technology, ETH Zürich *September 2018 – August 2022*
Bachelor of Science in Mechanical Engineering Weighted average: 5.67/6 (Class rank: Top 1.5%)

- Undergraduate studies with focus on Mechatronics and Robotics.
  Relevant courses include Introduction to Machine Learning, Robot Dynamics, ROS Course.

Kantonsschule Zug *August 2011 – June 2017*
Matura, Physics and Applied Mathematics Average: 5.78/6 (Class rank: #2/209)

STUDY PROJECTS

- **Semester project**: *Optimistic Active Exploration of Continuous-Time Dynamical Systems*, supervised by Bhavya Sukhija (LAS/CRL), Lenart Treven (LAS/ACL), Prof. Dr. Andreas Krause (LAS). We introduce an algorithm designed to perform efficient exploration in unknown continuous-time dynamical systems with theoretical guarantees regarding convergence as well as experimental validation. Expected publication in 2025. Github repository.
- **Class project**: *Text-based Mapping for Human-like Localization*, supervised by Dr. Andrei Cramariuc (RSL), for the class perception and learning for robotics. We create a map dataset with embedded textual data for testing and validation, and introduce a localization pipeline by integrating text-based information. Video, Poster.
- **Focus project**: *Dyana, a Dynamic Quadrupedal Animatronic Robot*, supervised by Prof. Dr. Marco Hutter (Robotic Systems Lab / RSL). We design a four-legged robot from scratch, aiming to imitate the look and movements of a cat-like creature. Video.
- **Bachelor's thesis**: *Design and Integration of an Animatronic Neck and Tail based on Cable-Driven Continuum Joints*, supervised by Fabian Tischhauser (Robotic Systems Lab / RSL), Dr. Jens Reinecke (German Aerospace Center / DLR), Markus Montenegro, Prof. Dr. Marco Hutter (both Robotic Systems Lab). Design of a tail and neck mechanism for the four-legged robot *Dyana*.

PROFESSIONAL EXPERIENCE

ETH Zürich *June 2021 – March 2023, August 2024 – Present*
Research Assistant *Zürich ZH*

- Research assistant in the LAS group of Prof. Dr. Andreas Krause at the ETH AI Center, working on active exploration in continuous-time model-based reinforcement learning settings (August 2024 — Present)
- Part-time research activity in various projects at RSL, mainly focused on prototyping, benchmarking and testing of robotic actuators using C++, ROS and CAN-communication (January 2022 — March 2023)
- Student coach for the focus project *SpaceHopper* at the Robotic Systems Lab (RSL) of Prof. Dr. Marco Hutter, coaching a team of 10 bachelor students in a robotics project in mechanical engineering design aspects, project management and sponsor acquisition (June 2021 — July 2022)

Axpo Power AG *July 2023 – January 2024*
Intern Drones and Hydro 4.0 *Baden AG*

- Mainly tasked with the deployment of a drone fleet for inspection and monitoring of hydroelectric and nuclear power plants. Involved in the planning and execution of drone operations, scouting new technologies, and testing their applicability. Part of the Hydro 4.0 Project at Axpo, collaborated with interdisciplinary teams in areas such as robotics, analytics, and workforce support.

Department of Mechanical Engineering (D-MAVT), ETH Zürich *September 2019 – July 2022*
Teaching Assistant *Zürich ZH*

- Teaching assistant for the courses *Engineering Materials and Production I/II* (Werkstoffe und Fertigung I/II) of Prof. Dr.-Ing. Dr. h.c. Konrad Wegener (September 2019 — July 2022) and for *Control Systems II* (Regelungstechnik II) of Prof. Dr. Lino Guzzella (December 2020 — June 2021)
- Held lessons for first-to-second-year engineering students (attendance of up to 250 students), aided in correcting exams and supervising office hours

Balti AG *January 2019 – February 2019*
Ardo medical AG *August 2017 – July 2018*

- At Balti: Learned of basic machining techniques and skills in the workshop, working in production, maintenance, and warehouse departments
- At Ardo: Provided IT Support for ERP-software switch from NAV 2007 to Microsoft Dynamics, and created instruction materials and documentation in new software for coworkers and management

OTHER EXPERIENCE

Canton of Zug (Kanton Zug) *September 2022 — Present*
Member of the Cantonal Parliament *Zug ZG*

- Elected to the cantonal parliament (Kantonsrat) as a representative for my home constituency of Unterägeri and Member of Parliament since October 2022 (roughly corresponds to workload of 10%)
- Numerous other political functions since September 2017

Academic Mechanical Engineering Association (AMIV) at ETH *February 2021 – June 2024*
Vice President *Zürich ZH*

- Member of the Board and vice president of AMIV, the largest and most active student association at ETH (>4'400 members, February 2021 – March 2022)
- President of the organisation committee for the engineering students' job fair at ETH Zürich (AMIV Kontaktmesse, September 2021 — December 2022)

Swiss Armed Forces *January 2018 – Present*
Nuclear Laboratory Specialist Soldier *Labor Spiez BE, Kaserne Thun BE*

- Military service as a laboratory technician in the Radiochemistry Group of the Nuclear Chemistry Division at the Spiez Laboratory (yearly three-week service in autumn, January 2018 — present)

References: *upon request*

QUALIFICATIONS

Programming and Scripting	*Experienced:* Python (incl. PyTorch, TensorFlow, SKLearn, JAX etc.), MATLAB, C++, LaTeX *Some experience:* HTML/CSS, SQL Databases
CAD and CAE	*Experienced:* Siemens NX (CAD/CAE) *Some experience:* Autodesk/Solidworks (CAD)
Project Management and ERP	Git/Github, Docker, Microsoft Dynamics
OS and Middleware	Microsoft Windows, Linux (Ubuntu), ROS
Languages	German *(Native proficiency)*, English *(Near-native proficiency, Cambridge Advanced C2)*, French *(Limited professional proficiency, B2)*
Extracurriculars	Politically active *(elected member of parliament in Canton Zug)*, Active member of AMIV *(largest student society at ETH)*
Other Interests	Hiking, Skiing, Bouldering, Reading, Politics

AWARDS AND HONORS

Dean's List, Achievement of High Honors *Spring 2023*

Awarded by the Robert R. McCormick School of Engineering and Applied Sciences during my exchange studies at Northwestern University "for outstanding academic achievement" (perfect 4.0 GPA)

Excellence Scholarship & Opportunity Award (ESOP) *September 2022*

Awarded by the ETH Foundation for my Master's studies in Robotics, Systems in Control in 2022
"based on excellent academic achievements so far and the quality of the pre-proposal for the Master's thesis"

Outstanding Teaching Assistant Award *March 2022*

Awarded by the teaching commission (UK) of the Department of Mechanical and Process Engineering "for an extraordinary contribution to teaching in the course *Engineering Materials and Production* in the bachelor's degree program in mechanical engineering at the ETH Zurich"