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André Engel

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Profile

Mechanical Engineering student at ETH Zurich with practical experience in automotive engineering. Team-oriented and solution-oriented, with leadership experience from the Swiss Army.

Education

BSc **ETH Zürich**, Mechanical Engineering — Sept 2021 – ongoing
- **Focus:** Engineering for Health

Matura **Wirtschaftsgymnasium Basel**, Matura — Aug 2014 – Jun 2020
- **Focus:** Economics and Law

Experience

ETH Zürich, Teaching Assistant Medical Engineering I/II — Zürich Sep. 2025 – Mar. 2026
- Assisted in teaching a course for 100 3rd year medical students at ETH on programming an exoskeleton arm.
- Guided students in applying programming concepts to control and test the robotic system effectively.

aCentauri Solar Racing, Driver Lead iESC — Zürich Jan. 2024 – Sep. 2024
- Led and prepared a team of solar car drivers for the 24-hour endurance race (illumen European Solar Challenge) at Circuit Zolder, Belgium.
- Oversaw training and readiness to ensure consistent performance and safety throughout the event.

aCentauri Solar Racing, Suspension Engineer, Solar Car Pilot — Zürich Sep. 2022 – Nov. 2023
- Developed the steering wheel for the solar car using Siemens NX.
- Collaborated interdisciplinarily to optimize the steering and chassis systems.
- Conducted iterative tests to improve suspension components for enhanced vehicle performance.
- One of the four main pilots who drove the solar car at the BSWSC 2023 in Australia.

LW Basel, Werkstattpraxis ETH — Basel Jan. 2022 – Feb. 2022
- Manufactured components using a 2-axis CNC lathe.
- Created and read technical drawings.
- Gained basic proficiency in SolidWorks.
- Performed TIG and MIG welding on steel components.

Swiss Army, Sergeant — Thun
Jan. 2021 – May. 2021

- Non-commissioned officer, Panzerschule 21, Recruit School 21/1.
- Led and trained groups of 8 people.
- Responsible for teaching and training recruits on the M113 tank.

Projects

Jacket Assistance Chair (ReLab Assistive Technology Challenge 2025)

- Designed and prototyped an assistive chair enabling users with disabilities to independently put on a jacket, applying user-centered design and rapid prototyping methods.
- Conducted risk analysis using FMECA principles to ensure safety, reliability, and usability during development and testing.
- Tools Used: Fusion 360, Arduino, Rapid prototyping, FMCEA

Solar Car Steering Wheel (aCentauri Solar Racing)

- Designed a lightweight, ergonomic steering wheel using FEM-optimization in Siemens NX to ensure crash safety and performance.
- Utilized 3D printing for fast iteration and testing; integrated into race vehicle with Siemens TeamCenter.
- Tools Used: Siemens NX, Siemens TeamCenter

Miniature Tunneling Robot (Innovation Project 2022, ETHZ)

- Designed and built a miniature tunnel boring robot to engage young teenagers with hands-on engineering experiences.
- Focused on developing intuitive controls and promoting teamwork through collaborative design.
- Tools Used: Siemens NX, Arduino, PrusaSlicer

IT Skills

Programming: Python, C++

CAD Tools: Siemens NX, Siemens TeamCenter, Fusion 360, SolidWorks

Other Tools: MATLAB, MS Office (good knowledge)

Languages

German: Native **Danish:** Native **English:** Fluent **French:** Good

Interests

Basketball, Music teaching, Motorsports, Trading Card Games