

Nikolaus Berschin

Curriculum Vitae

✉ contact@nikolaus-berschin.eu
in Nikolaus-Berschin

BSc Physics student, aspiring IT specialist



Research Interests

🔧 Mathematical modelling, numerical simulation, and data analysis in scientific and industrial settings.

Education

- 2023–present **BSc in Physics, ETH Zurich**, Zurich, Switzerland,
- Relevant coursework: Numerical Methods, Data Analysis, Classical Mechanics, Linear Algebra, Electrodynamics, Real and Complex Analysis.
- 2021–2023 **Matura / Abitur, Georg Büchner Gymnasium**, Rheinfelden, Germany, Final grade: 1.5
- Focus subjects: Mathematics, Physics, English.
 - Term paper: 📄 *Nuclear fusion with renewable energies as a way out of the global climate crisis*

Course-based Projects

- 2025 **Data Analysis Project, ETH Zurich Astroweek**
- Performed data reduction and analysis of CCD observations acquired during a week-long high-altitude (3000 m) astronomy field project, including assembly and calibration of a C14 Celestron telescope setup.
 - Applied 📊 (NumPy, pandas, Matplotlib) to conduct aperture photometry on selected star clusters and estimated cluster ages through isochrone fitting.
 - Emphasised statistical evaluation, uncertainty quantification, and clear visual representation of the results.


Personal Projects


- 2025 **Portfolio Website (React, Node.js)**
- Built a personal website *personal website* using a component-based React architecture and a lightweight Node.js backend.
- 2025 **Self-Hosted Photo Cloud (Immich, Linux)**
- Set up and maintained a private photo cloud instance on own Linux server, including storage configuration, backup routines, and system administration.
- 2025 **Introductory Cybersecurity Practice (OTW Bandit)**
- Worked through foundational Linux- and shell-focused security exercises involving privilege navigation, file permissions, and secure command-line workflows.

Technical Skills

🔧 **Programming:** Python (NumPy, pandas, Matplotlib), C/C++, basic shell scripting, React, NodeJS.

Mathematics: Linear algebra, calculus, basic complex analysis, probability, ODEs / simple PDEs.

 **Tools:** \LaTeX , Git, Jupyter, Overleaf, Linux environment.

 **Scientific computing:** Numerical integration, root finding, simple optimization and curve fitting.

Work Experience

2024–present **Tutor**, *Abacus Institute*, Zug, Switzerland

- Developed problem-solving skills and the ability to explain technical topics clearly.


Summer 2025 **Temporary Assistant**, *Avenir Group*, Zurich, Switzerland


- Conducted structured service evaluations as part of a temporary consulting project in the financial sector. Documented and assessed service quality using predefined evaluation frameworks.

Languages

 German (native), English (IELTS Test C1), French (B1/B2), Japanese (A2).

Extracurricular Activities

 Deputy Student Representative

 Tutor for high-school students in mathematics / physics.

 Hobbies: Classical Guitar, Volleyball, DIY