

Dr. Mauro Bernardini

Physicist and Data Scientist with a passion for data visualization

Nationality German, Swiss, Italian, Spanish
Birthday 27.1.95
E-mail mauro.bernardini@uzh.ch
GitHub github.com/maurbe
Website maurbe.github.io



PROFILE

I am an **Astrophysicist** with experience in **High-Performance Computing (HPC)** **Data Science** and numerical fluid simulations, based in Berlin Germany. My expertise lies in designing **visualization** strategies, **Deep Learning** applications and **AI integration** for **big data** pipelines.

EXPERIENCE



Dec 2023 - Dec 2025

Postdoctoral Researcher @ University of Zurich

- Advanced knowledge of **HPC facilities** such as CSCS (Switzerland) and LUMI (Finland)
- **Planning** and leading projects, writing proposals for project grants
- **Collaborating** in international groups and research projects
- **Supervising** of master students for semester projects, **teaching assistant** for physics and numerical courses
- **Presenting** at global conferences and workshops, **organizing seminars** and discussion panels



Nov 2023

Academic-Industry Exchange @ Meteomatics

- Developed a **temporal image-based super resolution** method for weather data
- Expanded professional network interfacing academia and industry partners



Oct 2023

Academic-Industry Exchange @ Ernst & Young

- Developed **Machine Learning** based decision rules to identify fraudulent financial transactions
- Gained experience on designing simple but compelling story-telling from complex datasets for industry partners



Sep 2019 - Sep 2023

Ph.D. candidate in Data Science @ University of Zurich

- Developed **Deep Learning** emulators for physics simulations
- Designed analysis pipelines for **big data** volumes → Main developer of visualization package for particle cloud data ([link](#))
- Developing compelling scientific story-telling for diverse audiences

SKILLS

Soft

Critical thinking, scientific writing, public speaking, teaching, inclusive team/ project management

Languages

German (native), English (proficient), Italian (fluent), French, Spanish (basic)

Programming

Python, C, C++, SQL, Bash, HTML, CSS

Frameworks

Git, SSH, Conda, VS-Code, TensorFlow, PyTorch, Plotly, LaTeX

EDUCATION

- | | |
|---------------------|--|
| Oct 2019 - Oct 2023 | Ph.D. in Data Science and Astrophysics @ University of Zurich |
| Sep 2017 - Sep 2019 | M.Sc. in Astrophysics @ University of Zurich |
| Sep 2013 - Sep 2017 | B.Sc. in Physics @ University of Zurich |

HOBBIES

Calisthenics, Windsurfing, Motorcycling, Art and Design, Fantasy and Science-Fiction literature