

# Dr. Mauro Bernardini

**Physicist and Data Scientist with a passion for data visualization**



Nationality	German, Swiss, Italian, Spanish
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## 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