

Paulo von Petersenn

Scientific Machine Learning Researcher | PhD Student

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Education

M.Sc. in Mathematical Physics Leipzig University

Leipzig

GPA: 1.1 (1.0 best - 4.0 pass)

B.Sc. in Physics Leipzig University

Leipzig

GPA: 1.7 (1.0 best - 4.0 pass)

German High School Diploma

Cologne

GPA: 1.0 (1.0 best - 4.0 pass)

Current Position

PhD Student Sbalzarini lab, DM3L, University of Zurich

current

Zurich

- Developing methods to discover interpretable models from high-dimensional data.
- Combining sparse regression with learned latent representations to identify governing equations in latent space.
- Supervised by Ivo F. Sbalzarini.
- Started at the Center for Systems Biology Dresden (MPI-CBG / TU Dresden) and moved with the Sbalzarini lab to the University of Zurich.

Guest Researcher MPI for Mathematics in the Sciences (MPI MiS)

Leipzig

- Collaborative project in the complex systems group exploring neural network generalization through information theory and Solomonoff induction.
- Enhanced ℓ_0 -regularization methods for neural network pruning.

Publications

Efficient Compression of Neural Networks and Datasets

arXiv:2505.17469

Lukas Silvester Barth, Paulo von Petersenn

Probabilistic and Nonlinear Compressive Sensing

arXiv:2509.15060

Lukas Silvester Barth, Paulo von Petersenn

A Personal, Portable Electric Circuit Lab

The Physics Educator, Vol. 04 No. 01

J. Bredow, P. von Petersenn, M. Ziese

Experience

Pleco-to-Anki Open-source Anki add-on for Chinese language learning

GitHub:

Pleco-to-Anki

- Published add-on streamlines flashcard creation by automatically importing Pleco bookmarks to Anki with enhanced formatting.

Teaching Assistant Mathematics Faculty, Leipzig University

Leipzig

- Assisted with undergraduate lectures and graded students' work.

Visiting Student National Taiwan University

Taipei

- DAAD-funded stay to study Mandarin and Quantum Computing.
- Achieved Mandarin proficiency (certificates: TOCFL-B1 & HSK-4).

Research Assistant Physics Faculty, Leipzig University

Leipzig

- Created remote learning solutions for physics labs during the COVID-19 pandemic.

University Level Study Exchange Hong Kong Baptist University

Hong Kong

- Chinese language learning; took courses on Chinese history and renewable energy.

Skills & Interests

Technical: Python (NumPy, PyTorch), Julia, HPC (data distributed programming)

Languages: German, English (fluent), Mandarin (conversational | TOCFL-B1 & HSK-4), French (functional)

Interests: Scientific ML, model discovery, piano, language learning