Philipp Trunschke

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10623 Berlin, Germany
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Education

Berlin Institute of Technology — Berlin, Germany
Ph.D. in Mathematics, Advisor: Reinhold Schneider — 2018–Current

Humboldt University of Berlin — Berlin, Germany
M.Sc. in Mathematics, GPA: 1.10/4.00 — 2016–2018

- Thesis: "Image Classification with Hierarchical Tensor Networks" (grade: 1.0)

Humboldt University of Berlin — Berlin, Germany
B.Sc. in Mathematics, GPA: 2.30/4.00 — 2013–2016

- Thesis: "Hierarchical optimistic optimization of X-armed bandits" (grade: 1.0)

Experience

Oberwolfach Seminar — Oberwolfach, Germany
on Mathematics of Deep Learning — October 2018

École polytechnique — Paris, France
Internship — Spring 2018

- PDE constraint optimization in Python

CoSIP Intense Course on Deep Learning — Berlin, Germany
November 2017

Workshop on Mathematics of Deep Learning — Berlin, Germany
September 2017

Oberwolfach Seminar — Oberwolfach, Germany
on Discontinuous Petrov-Galerkin Methods — June 2017

Zuse Institute Berlin — Berlin, Germany
Student assistant — 2016–2018

- Implementation of gas network simulations

Publications

A. Trunschke, G. Bellini, M. Boniface, *et al.*, "Towards experimental handbooks in catalysis", *Topics in Catalysis*, vol. 63, no. 19-20, pp. 1683–1699, Oct. 2020.

M. Eigel, R. Schneider, **P. Trunschke**, and S. Wolf, "Variational monte carlo—bridging concepts of machine learning and high-dimensional partial differential equations", *Advances in Computational Mathematics*, vol. 45, no. 5-6, pp. 2503–2532, Oct. 2019.

T. Streubel, C. Strohm, **P. Trunschke**, and C. Tischendorf, "Generic construction and efficient evaluation of flow network DAEs and their derivatives in the context of gas networks", in *Operations Research Proceedings*, Springer International Publishing, 2018, pp. 627–632.

Preprints

M. Eigel, R. Schneider, and **P. Trunschke**, *Convergence bounds for empirical nonlinear least-squares*, 2020. arXiv: 2001.00639 `[math.NA]`.

Teaching

- **Teaching Assistant** at Humboldt University of Berlin 2013–2018
  Einführung in Wissenschaftliches Rechnen

Skills

- **Python:** over 20 years of experience
  - numerical simulations
  - optimization algorithms
  - data processing and presentation
- **C and C++:** over 5 years of experience
  - numerical simulations
  - optimization algorithms

Languages

- **German:** native
- **English:** fluent
- **French:** basic

Scholarships and Awards

- BIMoS scholarship 2018–2021
- "Buchpreis" of the German Physical Society 2012
- "Schülerpreis" of the German Physical Society 2011