CURRICULUM VITÆ

PERSONAL DATA

Fabian Hofmann

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Germany

Born on the 16th of Mai 1991
in Frankfurt (Germany)

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EDUCATION

Jan 2022 - now	**Technical University of Berlin** Postdoctoral researcher in the Department of Digital Transformation in Energy Systems
May 2021 - Dec 2021	**Frankfurt Institute for Advanced Science** Postdoctoral researcher (Theoretical Physics)
Oct 2017 - May 2021	**Frankfurt Institute for Advanced Science** PhD program (Theoretical Physics) final grade "summa cum laude"
Feb 2016 - Aug 2017	**Goethe University Frankfurt** Master of Science (Physics) final grade 1,0
Aug 2015 - Jan 2016	**Chalmers University Gothenborg** Master of Science (Physics) semester abroad
Sep 2011 - Jul 2015	**Goethe University Frankfurt** Bachelor of Science (Physics) final grade 1,3
Sep 2011 - Sep 2012	**Goethe University Frankfurt** Bachelor of Arts (History)
Aug 2001 - Sep 2010	**Carl-Schurz-Schule Frankfurt** final grade 1,3

NOTABLE PROJECTS

Phd Project	In the course of the research project "Net-Allok" funded by the German Federal Ministry for Economic Affairs and Energy, I intensively worked on the implementation and evaluation of flow and cost allocation methods in cost-optimized, renewable power systems. During the project, I also acquired basic knowledge in machine learning and artificial intelligence.
Software Development	I steadily work on the development and improvement of the multiple open-source projects related with energy system modeling, mainly implemented in *python*. In particular these are • PyPSA (Python for Power System Analysis)

- PyPSA-EUR
- Atlite
- PowerPlantMatching
- NetAllocation

The main focus areas are optimization, data analysis, data visualization and distributed workflow management.

Masters Project	*"Principal Component Analysis of the European Power System"* As part of a team modeling the European power system, I analysed principal components of the power generation in highly renewable power systems.
Bachelor Project	*'Predicting the final spin of a black-hole binary system'* As part of an astrophysical research group, I studied and improved a formula predicting the final spin of a black-hole merger.
Voluntary Service	In 2010, I did a one-year-long voluntary service in Arusha (Tanzania). The project offered free sport and art classes to youths and children, who did not have the opportunity to go to school.

LANGUAGES

German	native speaker
English	highly proficient
French	very good working knowledge
Swahili	basic communication skills

SOFTWARE LANGUAGES

Python	highly proficient
Julia/Matlab/bash	good working knowledge
C/Java/HTML	basic knowledge

NOTABLE PUBLICATIONS

Hofmann, Fabian: *Tracing Prices: A Flow-Based Cost Allocation for Optimized Power Systems*. In: *arXiv:2010.13607 [physics]* (Oct. 2020). arXiv: 2010.13607 [physics].

Hofmann, Fabian, Enrico Barausse, and Luciano Rezzolla: *The Final Spin from Binary Black Holes in Quasi-Circular Orbits*. In: *The Astrophysical Journal* 825.2 (July 2016), p. L19. ISSN: 2041-8213. DOI: 10.3847/2041-8205/825/2/L19.

Hofmann, Fabian et al.: *Flow Allocation in Meshed AC-DC Electricity Grids*. en. In: *Energies* 13.5 (Mar. 2020), p. 1233. ISSN: 1996-1073. DOI: 10.3390/en13051233.

Hofmann, Fabian et al.: *Principal Flow Patterns across Renewable Electricity Networks*. In: *EPL (Europhysics Letters)* 124.1 (Nov. 2018), p. 18005. ISSN: 1286-4854. DOI: 10.1209/0295-5075/124/18005.

Hörsch, Jonas et al.: *PyPSA-Eur: An Open Optimisation Model of the European Transmission System*. en. In: *Energy Strategy Reviews* 22 (Nov. 2018), pp. 207–215. ISSN: 2211467X. DOI: 10.1016/j.esr.2018.08.012.

Schäfer, Mirko et al.: "Principal Cross-Border Flow Patterns in the European Electricity Markets". In: *2019 16th International Conference on the European Energy Market (EEM)*. Ljubljana, Slovenia: IEEE, Sept. 2019, pp. 1–6. ISBN: 978-1-72811-257-2. DOI: 10.1109/EEM.2019.8916334.

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