Nadja Herger

Data and AI Ethics • Senior Data Scientist • Human-Centric AI • Natural Language Processing

About

Nationality:	Switzerland	E-Mail:	hergernadja@gmail.com
Date of birth:	01. March 1991	Website:	https://nherger.github.io
Languages:	German (native), English (fluent), French (familiarity)	LinkedIn:	https://www.linkedin.com/in/nadja-herger

Profile

Data- and purpose-driven scientist with a strong technical background and 8+ years of experience analysing complex datasets using statistical inference and machine learning methods. Expertise in programming with Python to gain novel insights into data and deliver solutions with real-world impact. Strong communication skills when it comes to interacting with business stakeholders and explaining complex technical concepts to a non-technical audience. Passionate about the use of technology for social good and ethical use of AI (incl. bias/fairness, and Explainable AI). Experience in managing projects and small teams, as well as mentoring.

Work Experience

2022 - now **Data and Model Ethics Manager** • Thomson Reuters • Zug, Switzerland

- Support the creation and adoption of ethics-related policies and standards across the enterprise.
- Provide technical advice and training on ethics-related issues with data and models (incl. tooling, best practises).

2021 **Senior Data Scientist** • Thomson Reuters • Zug, Switzerland

- Co-lead of the Human-Centric AI research theme as part of the Labs research program. Oversight of various research projects, and definition of the direction of the research theme.
- Took on the Data Science lead role for a range of Natural Language Processing (NLP) projects, responsible for coordinating work amongst a group of Data Scientists, and communicating results with stakeholders.
- Played a crucial role in recruiting a team of Data Scientists in London and Bangalore.

2018 - 2021 **Data Scientist** • Thomson Reuters • Zug, Switzerland

- Contributed to various NLP projects, including classification, summarization, entity extraction, using traditional Machine Learning techniques as well as Deep Learning.
- Analyzed data and trained models using AWS Sagemaker.
- Participated in and presented at a range of customer events and workshops.
- Mentored several Data Science interns.
- Participated in a working group to develop Thomson Reuters' AI Principles.

2015 - 2018 **PhD in Climate Science** • UNSW • Sydney, Australia

- Combined global climate model output in a way that their interdependency is accounted for. The optimal subset is used to better constrain future climate projections (mainly temperature and precipitation fields).
- Used machine learning tools such as multidimensional scaling and clustering to better understand the relationship between climate models and observations.
- Published several peer-reviewed articles and presented at various international conferences.

Technical Skills

Data Science:	Machine Learning (SVM, Random Forest, LDA, …), Deep Learning (LSTM, BERT, …)
Languages:	Python (advanced), MATLAB (intermediate), R (beginner), bash, SQL
Libraries:	pandas, spacy, gensim, HuggingFace, scikit-learn
Software Development:	git integrated with GitHub
Cloud:	AWS (Sagemaker, S3, EC2)
Documentation:	MS Office Suite, Latex, Jupyter Book

Education

2015 - 2018 **Ph.D.** candidate (Climate Change Research Centre) — UNSW Sydney (Australia)
Thesis: *Towards a viable alternative to model democracy using optimal climate model subset selection*
Won the Dean's Award for Outstanding PhD Theses.

2013 - 2015 **M.Sc.** in Environmental Sciences (Major in Atmosphere and Climate) — ETH Zurich (Switzerland)
Thesis: *Predicting climate change by fixed patterns: Improved approaches and limitations*; Conducted at NCAR in Boulder, USA.
Grade: 5.79 out of 6 (degree awarded "with distinction")

2010 - 2013 **B.Sc.** in Environmental Sciences (Focus on Atmosphere and Climate) — ETH Zurich (Switzerland)
Thesis: *Susceptibilities in mixed-phase aerosol-cloud interaction simulated over an Alpine transect*
Grade: 5.46 out of 6

Scientific researcher: Analysing aerosol-cloud interactions from climate model simulations in the summer of 2013. Resulted in two publications. — Yale University (USA)

Awards

2019 **Dean's Award for Outstanding PhD Theses** — UNSW Sydney (Australia)
This award recognises PhD graduates who have produced a thesis that is considered outstanding by both examiners.

2015 - 2018 **University International Postgraduate Award** — UNSW Sydney (Australia)
Covers the full cost of tuition fees during the Ph.D. programme (AUD $117,360) and provides a living allowance valued at AUD $77,547 in total.

2015 - 2018 **Top up scholarship** — UNSW Sydney (Australia)
AUD $15,000 in total from the Climate Change Research Centre

2013 - 2015 **Excellence Scholarship and Opportunity Programme** — ETH Zurich (Switzerland)
Covers the full study and living costs (CHF 44,000 in total) and tuition fee waiver (CHF 2,596) during the Master's degree. Awarded to the top 2% of students starting a Master's programme.

Publications and Public Speaking

I have led and co-authored a range of peer-reviewed articles which are published in scientific journals. The full list can be found here: https://nherger.github.io/publications/

I had the pleasure to present at various academic and industry conferences, events and meetups. Topics include AI Ethics (incl. Explainable AI) and use cases of Natural Language Processing in industry. A list of speaking engagements can be found here: https://nherger.github.io/speaking/