

Daniel Fridljand

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PERSONAL INFORMATION

Date of birth: 21st of July 1999

Place of birth: Dresden, Germany

Nationality: German, Russian



SUMMARY

Applied Mathematician with a strong foundation in data modeling and machine learning from Heidelberg University, Yale University, and Stanford University. Proven track record in data management, data strategy and academic research with a first-author publication and 3 years of data science experience. Proficient in managing and analyzing large data sets using R, SQL and Python. Committed to leveraging computational skills to solve real-world challenges.

DATA SCIENCE EXPERIENCE

Research Data Analyst, ETH Zürich, Basel, Switzerland

Feb 2024 – Present

- Developed statistical methods for estimating mutational patterns in the lab of Niko Beerenwinkel.
- Analyzed single-cell, whole-genome DNA sequencing data from the Tumor Profiler Study, a large-scale clinical study involving multiple Swiss research institutions, contributing to key insights for melanoma cancer.

Research Data Analyst, Stanford University, Palo Alto, USA

Jul 2023 – Dec 2023

- Analyzed the role of air pollution for health inequalities in the US, under Pascal Geldsetzer's guidance.
- Devised and implemented the statistical analysis in R, synthesized findings from 150 pertinent publications, wrote the initial manuscript, and drove the manuscript from conceptualization to successful publication.
- Acceptance as article in Nature Medicine, ranking as the 4th medical Journal by h5 index in 2024.
- Executed major revisions of the manuscript and conducted new analyses within a strict 2-month deadline.
- Developed an interactive Shiny web application in R to visualize 17-dimensional data.

Research Data Analyst, European Molecular Biology Laboratory, Heidelberg, Germany

Oct 2021 – May 2022

- Developed and implemented a novel statistical method in R, C++ under the guidance of Wolfgang Huber and Nikos Ignatiadis to identify outliers in large-scale data sets.
- Presented research findings at seven scientific events, including a seminar talk at Yale University and University of North Carolina and a competitively selected oral contribution at DAGStat 2022, attended by 100 scholars.
- Conducted the peer reviews for a manuscripts at Bioinformatics Advances and Cell Biology.

Research Data Analyst, Heidelberg Institute of Global Health, Heidelberg, Germany

Oct 2020 – Sep 2021

- Analyzed the role of air pollution for health inequalities in the US, under Pascal Geldsetzer's guidance.

EDUCATION

University of Heidelberg, Heidelberg, Germany Oct 2020 - May 2023
M.Sc., Mathematics
Grade: 1.0 (full marks)
Selected coursework: SQL, statistics for machine learning
Awards: Gerhard C. Starck Foundation Stipend, Baden-Württemberg Stipend

Yale University, New Haven, USA Aug 2022 - May 2023
Exchange Student, Applied Mathematics
Grade: Honors (full marks)
Selected coursework: Theory and Application of Deep Learning, Topological Methods in Machine Learning
Award: German Academic Exchange Service (DAAD) Stipend

University of Heidelberg, Heidelberg, Germany Oct 2017 - Sep 2020
B.Sc., Mathematics
Grade: 1.4
Award: Gerhard C. Starck Foundation Stipend

Hebrew University of Jerusalem, Jerusalem, Israel Sep 2019 - Mar 2020
Exchange Student, Mathematics
Awards: PROMOS Stipend (DAAD), Stipend of the Hebrew University of Jerusalem

Karl-Friedrich-Gymnasium, Mannheim, Germany Sep 2009 - Jun 2017
Grade: 1.0 (full marks)

TEACHING EXPERIENCE

Crash Course Tutor, **Studybees GmbH**, Germany Apr 2018 – Aug 2019

- Mentored over 150 students at the University of Mannheim across 10 courses, preparing them for exams.

Freelance Writer, **Springer Nature**, Germany Aug 2019

- Developed two mathematical exams focused on statistical applications in laboratory setting.

PUBLICATION

Geldsetzer, P. (first author), **Fridljand, D.*** (first author), Kiang, M. V., Bendavid, E., Heft-Neal, S., Burke, M., ... & Benmarhnia, T. (2024). Disparities in air pollution attributable mortality in the US population by race, ethnicity and sociodemographic factors. *Nature Medicine*, 2024-07.

SKILLS

Computer Skills: R (5 years): tidyverse, ggplot, caret, Rcpp; Python (2 years): pandas, numpy, pytorch; C++ (1 year)
Mathematical Skills: Selective Inference, Graphical Modelling, Machine Learning, Random Forest
Languages: English (professional), German (native), Russian (native)
Social Skills: Teamwork, Working under deadlines