Daniel Fridljand

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SUMMARY

I am a driven data scientist with a strong academic background in mathematics, statistics, and bioinformatics. My passion for machine learning, software development, and coding has led me to work on projects across diverse domains, including public health, genetics, and oncology. With three years of scientific software development experience and a first-author publication in a high-impact journal, I'm committed to leveraging computational skills to solve real-world challenges.

SOFTWARE DEVELOPMENT EXPERIENCE

Software Consultant, **TNG Technology Consulting**, Munich, Germany Dec 2024 – Present

- Modernization and further development of a supply chain management application in an international development team
- Service for requesting quotation, bidding, displaying and confirming delivery orders
- Agile development with a two-week sprint cycle, continuous integration, and regular production releases within the sprint
- Setup of CI pipelines (Jenkins, SonarQube, Gradle)
- Enhancement of test automation capabilities
- Full-stack development with
    - React, TypeScript, Java 8/17, JBoss, Oracle DB, Gradle, JUnit, Docker, Podman, Jenkins, SonarQube

DATA SCIENCE EXPERIENCE

Research Data Analyst, **ETH Zürich**, Basel, Switzerland Feb 2024 – Sep 2024

- 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.
- Executed major revisions of the manuscript and conducted new analyses within a strict 2-month deadline.

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)