Tobias Freidling

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⌨ tobias-freidling   in tobias-freidling

Academic Positions

2025 – present	**Postdoctoral Researcher**, École polytechnique fédérale de Lausanne, Switzerland. Supervisor: Mats Stensrud

Education

2020 – 2024	**PhD Mathematics of Information**, University of Cambridge, UK. Thesis: *Some Selective Inference and Optimization Methods for Reliable Causal Inference* Supervisor: Qingyuan Zhao
2020	**Exchange Research Student, Informatics**, Kyoto University, Japan. Supervisor: Makoto Yamada
2018 – 2020	**M.Sc. Mathematics**, Technical University of Munich, Germany. Thesis: *Model uncertainty in statistical inference* Supervisor: Mathias Drton
2017 – 2018	**Visiting Student, The Queen's College**, University of Oxford, UK.
2015 – 2017	**B.Sc. Mathematics**, Ludwig-Maximilians University, Munich, Germany. Thesis: *The proof of the Birkhoff Ergodic Theorem* Supervisor: Peter Müller
2014 – 2015	**B.Sc. Mathematics**, Technical University of Munich, Germany.

Publications

1. **Freidling**, **Tobias** and Qingyuan Zhao (2024). *Optimization-based Sensitivity Analysis for Unmeasured Confounding using Partial Correlations.* 🔗 arXiv: 2301.00040.

2. **Freidling**, **Tobias**, Qingyuan Zhao, and Zijun Gao (2024). *Selective Randomization Inference for Adaptive Experiments.* 🔗 arXiv: 2405.07026.

3. **Freidling**, **Tobias**, Benjamin Poignard, Héctor Climente-González, and Makoto Yamada (2021). "Post-selection inference with HSIC-Lasso". In: *International Conference on Machine Learning (ICML).* Vol. 139, pp. 3439–3448. 🔗 URL: https://proceedings.mlr.press/v139/freidling21a.html.

4. Strieder, David, **Tobias Freidling**, Stefan Haffner, and Mathias Drton (2021). "Confidence in causal discovery with linear causal models". In: *Uncertainty in Artificial Intelligence (UAI).* Vol. 161, pp. 1217–1226. 🔗 URL: https://proceedings.mlr.press/v161/strieder21a.html.

Presentations and Talks

2024	GSK.ai PhD Symposium, London, UK
	Bernoulli–IMS 11th World Congress 2024, Bochum, Germany
	Causal Machine Learning workshop, Southampton, UK
	American Causal Inference Conference (ACIC), Seattle, WA, USA
	European Causal Inference Meeting (EuroCIM), Copenhagen, Denmark
	Response-Adaptive Randomisation in Clinical Trials Workshop, Cambridge, UK

Presentations and Talks (continued)

2023	Statistics Student Seminar, University of Chicago, IL, USA
	Machine Learning and Data Science Seminar, Okinawa Institute of Science and Technology, Japan
	European Causal Inference Meeting (EuroCIM), Oslo, Norway
	Online Causal Inference Seminar
2022	American Causal Inference Conference (ACIC), Berkeley, CA, USA
2021	RIKEN Advanced Intelligence Project (AIP) Seminar, Japan, online
	International Conference on Machine Learning (ICML), online
	GSK.ai Research Symposium, online

Professional Service

Reviewer	Annals of the Institute of Statistical Mathematics, Artificial Intelligence and Statistics Conference (AISTATS), Biometrika, Causal Learning and Reasoning (CLeaR), Journal of the Royal Statistical Society - Series A, Journal of the Royal Statistical Society - Series B, Statistics in Medicine
Organizer	Causal Inference Reading Group at the University of Cambridge (2022 – 2024)
	PhD Student Lunch Seminar at the University of Cambridge (2023 – 2024)
Consultant	Statistics Clinic at the University of Cambridge (2020 – 2024)

Prizes and Scholarships

2023	Smith-Knight and Rayleigh-Knight Prize (Group 3)
2020 – 2024	GSK PhD Studentship
2014/5 – 2020	Scholarship of the German Academic Scholarship Foundation
	Max Weber Scholarship of the Elite Network of Bavaria
	Scholarship of the Maximilianeum Foundation

Teaching

University of Cambridge

Teaching Assistant	2022 – Causal Inference (4th year course)
	2021 – Causal Inference (4th year course)
Supervisor	2023 – Statistical Modelling (3rd year course)
	2023 – Statistics (2nd year course)
	2022 – Mathematics of Machine Learning (3rd year course)

Ludwig-Maximilians University

Tutor	2016 – Numerics (2nd year course)

Industry Experience

2023	**GlaxoSmithKline, AIML, Precision Oncology**, Student Placement.
	Bayesian modelling of pairwise CRISPR knock-out experiments
2021	**Unilever, SEAC**, Industry Project.
	Optimal Bayesian experimental design of clinical studies for PBPK models
2019 – 2020	**Siemens, Learning Systems**, Working Student.
	Implementation of Recurrent Neural Networks in Tensorflow

Industry Experience (continued)

2018   **Gestafe**, Data Science Internship.
        Business Intelligence for an insurtech start-up

Skills

Coding			
	R (proficient)	Python (intermediate)	Stan (intermediate)
	LaTeX (proficient)	git (basic+)	
	SQL (basic)	Java (basic)	

Languages			
	German (native)	English (fluent)	French (intermediate-)
	Spanish (intermediate-)	Japanese (beginner+)	