

# Tobias Freidling

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🌐 <https://tobias-freidling.onrender.com/>

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## Education

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2020 – present	<b>PhD Mathematics of Information</b> , University of Cambridge, UK. Supervisor: Qingyuan Zhao
2020	<b>Exchange Research Student, Informatics</b> , Kyoto University, Japan. Supervisor: Makoto Yamada
2018 – 2020	<b>M.Sc. Mathematics</b> , Technical University of Munich, Germany. Thesis: <i>Model uncertainty in statistical inference</i> , Supervisor: Mathias Drton
2017 – 2018	<b>Visiting Student, The Queen's College</b> , University of Oxford, UK.
2015 – 2017	<b>B.Sc. Mathematics</b> , Ludwig-Maximilians University, Munich, Germany.
2014 – 2015	<b>B.Sc. Mathematics</b> , Technical University of Munich, Germany.

## Publications

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- 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

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2024	GSK.ai PhD Symposium, London, UK Bernoulli–IMS 11 <sup>th</sup> 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
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

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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 B, Statistics in Medicine
Organizer	Causal Inference Reading Group at the University of Cambridge (2022 – present) PhD Student Lunch Seminar at the University of Cambridge (2023 – present)
Consultant	Statistics Clinic at the University of Cambridge (2020 – present)

## Prizes and Scholarships

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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

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### University of Cambridge

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

### Ludwig-Maximilians University

Tutor	2016 – Numerics (2 <sup>nd</sup> year course)
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## Industry Experience

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2023	<b>GlaxoSmithKline, AIML, Precision Oncology</b> , Student Placement. Bayesian modelling of pairwise CRISPR knock-out experiments
2021	<b>Unilever, SEAC</b> , Industry Project. Optimal Bayesian experimental design of clinical studies for PBPK models
2019 – 2020	<b>Siemens, Learning Systems</b> , Working Student. Implementation of Recurrent Neural Networks in Tensorflow
2018	<b>Gestafe</b> , Data Science Internship. Business Intelligence for an insurtech start-up

## Skills

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Coding	R (proficient) LaTeX (proficient) SQL (basic)	Python (intermediate) git (basic+) Java (basic)	Stan (intermediate)
Languages	German (native) Spanish (intermediate-)	English (fluent) Japanese (beginner+)	French (intermediate-)