Phillip B. Mogensen

PhD | cand.scient.oecon

Humlebæk – Denmark

✉ pbm@math.ku.dk

in phillip-mogensen

📞 +45 53 82 23 45

Key competencies

- Experienced data scientist.
- Skilled at explaining complex results to stakeholders.
- Strong theoretical background.
- Efficient R/Python/C++ programmer.

Programming skills

Expert R, SQL (Redshift/Server), Python, git.

Experienced Shiny, Streamlit, SAS.

Familiar with C++, PowerShell, VBA.

Other IT skills

Azure DevOps, AWS, Linux (Fedora/Ubuntu), SLURM, Splunk, LaTeX, Computerome, MLflow.

Education

2022 PhD in Mathematical Statistics
University of Copenhagen

2019 MSc, Mathematics-economics
University of Copenhagen

2017 BSc, Mathematics-economics
University of Copenhagen

Professional profile

I am an efficient, versatile and driven data scientist with a passion for applying causal discovery methods to drive research. I am a self-starter and I have independently driven deliveries for large corporations on tight deadlines. I have experience with big data, multiomics and high performance computing. I have collaborated with people from a wide range of fields and I pride myself on my ability to make complex topics understandable to the layman.

Work experience

2023 – Senior data scientist – *GLX Analytix*
- Led a small data team, overseeing all day-to-day operations.
- Built an end-to-end MlOps pipeline using Python, MLflow and Git LFS.
- Significantly reduced labor time of an in-house assay by building a semi-automatic dot blot image analysis tool using Python and OpenCV.
- Implemented and oversaw company-wide project portfolio management using Monday.

2022 – 2023 Data scientist – *Arbejdsmarkedets Tillægspension*
- Developed and maintained machine learning models for detecting fraud with public welfare spending.
- Optimized existing batch jobs to reduce the computation time by around 30%.

2019 – 2022 PhD fellow – *University of Copenhagen*
- Researched novel causal discovery methods and multiple testing procedures, with a focus on scalability for use in multiomics research.
- Taught courses in computational statistics and applied statistics.

2019 – 2022 Owner – *JP Statistics ApS*
- Developed ML models for Eis Danmark A/S to optimize sales leads.
- Worked as an external consultant to the Market Access dept. at Novo Nordisk A/S for two years.

2019 Research assistant – *University of Copenhagen*
- Researched constraint-based causal discovery methods.

2017 – 2019 Student assistant in biostatistics – *Novo Nordisk*
- Analyzed data from RCTs and supporting work.

2017 – 2018 Student assistant in statistics – *Rigshospitalet*
- Worked as a statistician on the research project FC Prostata.

2015 – 2019 Teaching assistant – *University of Copenhagen*
- TA in various statistics and mathematics courses, ranging from introductory statistics targeting non-mathematicians to MSc courses in theoretical statistics and math.

Phillip B. Mogensen

PhD | cand.scient.oecon

Humlebæk – Denmark

✉ pbm@math.ku.dk

in phillip-mogensen

📞 +45 53 82 23 45

Research interests

○ Causal discovery and inference.

○ Test theory and multiple testing.

○ Semiparametric statistics.

Software releases

R `TMTI`: multiple testing with closed testing procedures.

Python `InvariantAncestrySearch`: finding causal ancestors; `tidybench`: benchmark methods for causal discovery in time series.

Personal

Personality Outgoing, humorous, down-to-earth, creative, outspoken and curious.

Hobbies Flag football, guitar, do-it-yourself projects, personal coding projects, long walks with my dogs.

Languages

Fluent Danish and English.

High school level German.

Publications

Phillip B. Mogensen, Nikolaj Thams, Jonas Peters Proceedings of the 39th International Conference on Machine Learning, PMLR 162:15832-15857, 2022.

Phillip B. Mogensen, and Bo Markussen. "'Too Many, Too Improbable' test statistics: A general method for testing joint hypotheses and controlling the k-FWER." arXiv preprint arXiv:2108.04731 (2021).

Weichwald, Sebastian, et al. "Causal structure learning from time series: Large regression coefficients may predict causal links better in practice than small p-values." NeurIPS 2019 Competition and Demonstration Track. PMLR, 2020.

Evans, Marc, et al. "Healthcare costs and hospitalizations in US patients with type 2 diabetes and cardiovascular disease: A retrospective database study (OFFSET)." Diabetes, Obesity and Metabolism (2022).

Andersen, Helle, et al. "Glycocalyx Shedding Patterns Identify Antipsychotic-Naïve Patients with First-episode Psychosis". Nature Neuroscience (submitted).

Other

Talks NeurIPS 2019 (paper presentation), ICML 2022 (paper presentation).

Reviewing duties Journal of Machine Learning Research, Scandinavian Journal of Statistics, Association for Uncertainty in Artificial Intelligence (2021, 2022, 2023), International Conference of Machine Learning (2022), Advances in Statistical Analysis, International Conference on Machine Learning and Applications.

Competitions First place in the NeurIPS 2019 competition 'Causality for Climate', where we developed causal discovery algorithms for inferring summary graphs from time series of environmental datasets. Amazon announcement here.

Media I gave an interview on TV2 Lorry about a Shiny Dashboard (created by two coworkers and myself) which tracked the development of COVID-19 in the early stages of its outbreak in 2020. Link to corresponding article here.