Martin Emil Jakobsen

Curriculum vitae

General information

Name	**Martin Emil Jakobsen**
Born	**25 August 1990**
Natl.	**Danish**

Work Experience

Period	**February 2022 — March 2022**	
Employer	**University of Copenhagen**	Copenhagen, Denmark
Job Title	**Research Assistant**	

Temporary hire. Revised and submitted the last paper of my Ph.D. project.

Period	**August 2018 — September 2021**	
Employer	**University of Copenhagen**	Copenhagen, Denmark
Job Title	**Researcher - Ph.D. Candidate in Statistics**	

Ph.D. candidate at the Copenhagen Causality Lab under supervision of Professor Jonas Peters. TA in Discrete Statistical Models, Causality, and Advanced Probability. My research was primarily within the fields of statistics, causality, econometrics, and machine learning. More specifically, my research contributed to the topics of causal effect estimation, causal structure learning, and out-of-distribution generalization. My Ph.D. thesis 'Causality and Generalizability: Identifiability and Learning Methods', available at `https://arxiv.org/abs/2110.01430`, include the following papers:

1. M. E. Jakobsen and J. Peters (2021). Distributional robustness of K-class estimators and the PULSE. *The Econometrics Journal (forthcoming)*.

2. R. Christiansen, N. Pfister, M. E. Jakobsen, N. Gnecco, and J. Peters (2021). A causal framework for distribution generalization. *IEEE Transactions on Pattern Analysis and Machine Intelligence (forthcoming)*.

3. M. E. Jakobsen, R. D. Shah, P. Bühlmann, and J. Peters. Structure learning for directed trees (2021). Preprint `https://arxiv.org/abs/2108.08871`. Under review at JMLR.

4. S. Weichwald, M. E. Jakobsen, P. B. Mogensen, L. Petersen, N. Thams, and G. Varando (2020). Causal structure learning from time series: Large regression coefficients may predict causal links better in practice than small p-values. *Proceedings of the NeurIPS 2019 Competition and Demonstration Track*, 123:27-36, PMLR.

Period	**March 2017 — August 2018**	
Employer	**PFA Pension**	Copenhagen, Denmark
Job Title	**Actuary**	

Actuary/Statistician in the department for Actuarial Innovation and Models. Worked on a micro-modelling project where I developed and implemented statistical models enabling more individualized pricing of insurance products.

Period	**September 2015 — February 2016**	
Employer	**University of Copenhagen**	Copenhagen, Denmark
Job Title	**Teaching Assistant**	

Teaching Assistant in Advanced Probability (MSc) and Stochastic Processes (BSc).

Education

Period	**August 2018 — September 2021**	
Degree	**Doctor of Philosophy in Statistics**	
University	**University of Copenhagen**	Copenhagen, Denmark

Period	**September 2014 — February 2017**	
Degree	**Master of Science in Actuarial Mathematics**	
GPA	**11.71 / 12.00 (A)**	
University	**University of Copenhagen**	Copenhagen, Denmark

My main focus and interests have been measure-theoretic probability and statistics, for example, asymptotic theory and stochastic calculus. My thesis 'Distance covariance in metric spaces: non-parametric independence testing in metric spaces' is available at `https://arxiv.org/abs/1706.03490`.

Period	**September 2011 — September 2014**	
Degree	**Bachelor of Science in Actuarial Mathematics**	
GPA	**11.41 / 12.00 (A)**	
University	**University of Copenhagen**	Copenhagen, Denmark

Prizes and acknowledgements

Prize	**Winner of NeurIPS 2019 C4C challenge**
Org.	**Causality 4 Climate**

Part of a Ph.D. and post-doc team that participated and won the Causality 4 Climate, NeurIPS 2019, competition. The challenge was to infer cause effect relationships in semi-realistic and realistic time series climate data. See: `https://aws.amazon.com/blogs/machine-learning/neurips-competition-tackles-climate-data-challenges/`

Prize	**Best Mathematical Thesis 2017**
Org.	**The Danish Mathematical Society**

My master's thesis was awarded the prize for the best mathematical thesis submitted at Danish universities in 2017. See: `https://www.math.ku.dk/english/about/news/dmf-thesis-prize-2018/`

Skills

Languages	Danish, English.
Programming Languages	R, Python, SQL.

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