David Strieder

PhD Student · Mathematical Statistics

Technical University of Munich, Boltzmannstr. 3, 85748 Garching b. München, Germany

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Education

Technical University of Munich — *Munich*

PhD in Mathematics — *2020 - present*

- Advisor: Mathias Drton
- Working Title: Confidence in Causal Discovery
- Member of the Munich Center of Machine Learning (MCML)
- Member of ERC project Graphical Models for Complex Multivariate Data

Karlsruhe Institute of Technology — *Karlsruhe*

M. Sc. in Mathematics — *2018 - 2020*

- Advisor: Norbert Henze, Bruno Ebner
- Thesis: New tests of multivariate normality based on the gradient of the characteristic function (1.0)
- Final grade: 1.2 (with distinction)

Karlsruhe Institute of Technology — *Karlsruhe*

B. Sc. in Mathematics — *2014 - 2018*

- Advisor: Bernhard Klar
- Thesis: Limit theorems for discrete-time stochastic processes (1.0)
- Final grade: 1.8

Publications and Preprints

G. Keropyan, D. Strieder and M. Drton. *Rank-Based Causal Discovery for Post-Nonlinear Models*. (Accepted for AISTATS 23) Preprint at arXiv.

D. Strieder and M. Drton. *On the choice of the splitting ratio for the split likelihood ratio test*. Electronic Journal of Statistics, 16(2), 6631-6650, 2022.

B. Ebner, N. Henze and D.Strieder. *Testing normality in any dimension by Fourier methods in a multivariate Stein equation*. Canadian Journal of Statistics, 50: 992-1033, 2022.

D. Strieder, T. Freidling, S. Haffner and M. Drton. *Confidence in Causal Discovery with Linear Causal Models*. Proceedings of the Thirty-Seventh Conference on Uncertainty in Artificial Intelligence, PMLR 161:1217-1226, 2021.

Conference Talks and Presentations

2023. 26th International Conference on Artificial Intelligence and Statistics (AISTATS), Valencia, Spain. Poster presentation on *Rank-Based Causal Discovery for Post-Nonlinear Models*.

2022. IMS International Conference on Statistics and Data Science, Florence, Italy. Poster presentation on *Confidence in Causal Discovery with Linear Causal Models*.

2022. ETH-UCPH-TUM Workshop on Graphical Models, Raitenhaslach, Germany. Talk on *Confidence in Causal Discovery with Linear Causal Models*.

2022. 17th Meeting of PhD Students in Stochastics, Klagenfurt, Austria. Talk on *Confidence in Causal Discovery with Linear Causal Models*.

2021. 37th Conference on Uncertainty in Artificial Intelligence (UAI), Online. Talk and Poster presentation on *Confidence in Causal Discovery with Linear Causal Models*.

Other Talks and Activities

2023. 2nd ASCAI Workshop (Active and batch Segmentation, Clustering, and seriation: toward unified foundations in AI.)
Talk on *Confidence in Causal Discovery with Linear Causal Models*.

2022. Munich Data Science Institute (MDSI) General Assembly.
Poster presentation on *Confidence in Causal Discovery with Linear Causal Models*.

2022. Virtual Pitch Talks of the German AI network about Learning on Graphs and Networks.
Talk on *Confidence in Causal Discovery with Linear Causal Models*.

2021. AALTO-ICL-TUM Meeting on Algebraic Methods in Data Science.
Talk on *Confidence in Causal Discovery with Linear Causal Models*.

Teaching Experience

Teaching assistant

WS 2021/22	**Seminar: Nonlinear Methods in Causal Inference**, Teaching Assistant
SS 2021	**TUM Data Innovation Lab: A robust comparison of causal effects from observational data in healthcare**, Project Mentor
WS 2020/21	**Lecture: Generalized Linear Models**, Teaching Assistant

Thesis Supervisor

WS 2022/23	**Credible Intervals for Causal Effects in Linear Causal Models**, Masters Thesis
WS 2022/23	**Confindence in Causal Inference from Interventional Data**, Masters Thesis
SS 2022	**Active Bayesian Causal Discovery for Gaussian Process Networks**, Masters Thesis
SS 2022	**Post-Nonlinear Gaussian Causal Models**, Masters Thesis
SS 2021	**Bivaraite Causal Discovery with non-linear Models**, Bachelors Thesis
WS 2020/21	**Two Likelihood-Ratio Based Approaches for Estimating the Causal Effect in Linear Structural Equation Models**, Masters Thesis

Other Professional Experience and Service to the Community

2021-2023	**Program Committee**, Conference on Uncertainty in Artificial Intelligence
2021	**Program Committee**, Workshop on Causal Inference, International Conference on Machine Learning