MARCEL KOLLOVIEH

PhD student at Technical University of Munich

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EDUCATION

PhD in Machine Learning and Data Analytics

Technical University of Munich

Jun 2023 – Present Munich

- Focus: Generative models for time series and graphs
- Supervisor: Prof. Dr. Stephan Günnemann

M. Sc. Informatics

Technical University of Munich

Oct 2019 – Oct 2022 Munich

- passed with **high distinction**
- Thesis: Learning Hierarchies in Data by Optimizing the Expected Dasgupta Cost

B. Sc. Informatics

Technical University of Munich

Oct 2016 – Oct 2019 Munich / Singapore

- Thesis: Implementation and Analysis of Data Compression Algorithms based on the Burrows-Wheeler Transform
- Exchange: **National University of Singapore**, Aug 2018 - Dec 2018

EXPERIENCE

Applied Scientist Intern

Amazon

Nov 2022 – Apr 2023 Berlin

- Investigated time series forecasting using generative models
- Contributed to open-source package GluonTS

Student Assistant

HelmholtzZentrum München

Sep 2020 – Aug 2021 Munich

- Explored self-supervised learning and variational autoencoders in medical imaging

Student Assistant

Technical University of Munich

Apr 2020 – Oct 2020 Munich

- Tutor for Discrete Probability Theory

Working Student Software Engineering

BSI Business Systems Integration Deutschland GmbH

Mar 2019 – Feb 2020 Munich

- Worked on Customer Relationship Management systems

VOLUNTEERING

Tutor
TUMinternational (TUMi) / Erasmus Student Network (ESN)

Mentor
MINGA Program, TUM Department of Informatics

STRENGTHS

Python | PyTorch | Tensorflow | Java | SQL | C++ | Git | LaTeX | Slurm | AWS | Linux | OCaml | OpenGL

Presentation Skills | Team Communication | Analytical Problem Solving | Time Management | Decision Making

LANGUAGES

English
German
Spanish

PUBLICATIONS

Journal Articles

- I. Ezhov, T. Mot, S. Shit, *et al.*, "Geometry-aware neural solver for fast bayesian calibration of brain tumor models," *IEEE Transactions on Medical Imaging*, vol. 41, no. 5, pp. 1269–1278, 2021.

Conference Proceedings

- **M. Kollovieh**, L. Gosch, Y. Scholten, M. Lienen, and S. Günnemann, "Assessing robustness via score-based adversarial image generation," in *arXiv preprint arXiv:2310.04285*, 2023.
- **M. Kollovieh***, A. F. Ansari*, M. Bohlke-Schneider, J. Zschiegner, H. Wang, and Y. Wang, "Predict, refine, synthesize: Self-guiding diffusion models for probabilistic time series forecasting," in *Neural Information Processing Systems*, 2023.
- J. Kukačka, A. Zenz, **M. Kollovieh**, D. Jüstel, and V. Ntziachristos, "Self-supervised learning from unlabeled fundus photographs improves segmentation of the retina," in *Medical Imaging meets NeurIPS*, 2021.