

# MARCEL KOLLOVIEH

PhD candidate at Technical University of Munich

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📍 Germany

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## EDUCATION

PhD candidate in Machine Learning

Technical University of Munich

📅 Jun 2023 – Present

📍 Munich

- Focus: Generative models for time series and graphs
- Supervised by Prof. Dr. Stephan Günnemann at DAML

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
- Work published in a paper at NeurIPS 2023

Student Assistant

HelmholtzZentrum München

📅 Sep 2020 – Aug 2021

📍 Munich

- Explored self-supervised learning and variational autoencoders in medical imaging
- Work led to a co-authorship of a workshop paper

Student Assistant

Technical University of Munich

📅 Apr 2020 – Oct 2020

📍 Munich

- Tutor for the course Discrete Probability Theory
- Taught concepts of (discrete and continuous) probability theory, Markov chains, and statistics

Working Student Software Engineering

BSI Business Systems Integration Deutschland GmbH

📅 Mar 2019 – Feb 2020

📍 Munich

- Development of Customer Relationship Management systems
- Used technologies: Java, JavaScript, and SQL

## VOLUNTEERING

👤 Tutor

TUMinternational (TUMi) / Erasmus Student Network (ESN)

👤 Mentor

MINGA Program, TUM Department of Informatics

## STRENGTHS

Python

Java

SQL

C++

OCaml

CSS

HTML

JavaScript

PyTorch

TensorFlow

Numpy

Git

LaTeX

Slurm

AWS

Linux

OpenGL

Presentation Skills

Team Communication

Analytical Problem Solving

Time Management

Decision Making

## LANGUAGES

English

German



## SELECTED 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*, 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.