

STEFAN KOLEK

Munich, Germany | +49 (0) 176 232 348 60 | kolek@math.lmu.de | <https://skmda37.github.io/>

EDUCATION

Ludwig-Maximilians Universität München, Munich, Germany since May 2021

PhD Candidate in Computer Science

Associate of the Konrad Zuse School of Excellence in Reliable AI

Topics: Interpretable Machine Learning; Trustworthy Machine Learning; Computer Vision

Technische Universität Berlin, Berlin, Germany March 2021

MS in Mathematics

Master Thesis: Explainable Artificial Intelligence with Disentangled Representations

Ludwig-Maximilians Universität München, Munich, Germany August 2018

BS in Mathematics

Bachelor Thesis: Brownian Local Time

CONFERENCE PUBLICATIONS

S. Kolek, R. Windesheim, H. Andrade Loarca, G. Kutyniok, R. Levie. *Explaining Image Classifiers with Multiscale Directional Image Representation*. **CVPR 2023**

S. Kolek, D. Nguyen, R. Levie, J. Bruna, G. Kutyniok. *Cartoon Explanations of Image Classifiers*. **ECCV 2022 (Oral)**

WORKSHOP PAPERS

T. Mueller, S. Kolek, F. Jungmann, A. Ziller, D. Usynin, M. Knolle, D. Rueckert, G. Kaissis. *How Do Input Attributes Impact the Privacy Loss in Differential Privacy?* **AAAI 2023**, Workshop on Privacy-Preserving Artificial Intelligence.

S. Kolek, D. Nguyen, R. Levie, J. Bruna, G. Kutyniok. *A Rate-Distortion Framework for Explaining Black-Box Model Decisions*. xxAI-Beyond Explainable AI. International Workshop, Held in Conjunction with **ICML 2020**.

RESEARCH VISITS

Technion, Israel. *Invitation by Prof. Ron Levie (1 Week)* March 2023

INVITED TALKS

Technion, Israel. *Applied Math Seminar, Invitation by Prof. Ron Levie*. March 2023

Tel Aviv University, Israel. *EE-Computer Vision Seminar, Invitation by Prof. Raja Giryes*. March 2023

TECHNICAL SKILLS

Programming Languages: *Python (strong), Bash (proficient), Javascript (proficient)*

Machine Learning Libraries: *PyTorch, Jax, OpenCV, Scikit-Learn, NumPy*

Tools: *Vim, Jupyter, Git*

Languages: *German (native/bilingual), Spanish (fluent/bilingual), English (fluent)*

TEACHING

Ludwig-Maximilians Universität München, Munich, Germany. Teaching Assistant.

Modern Mathematics of Deep Learning Seminar (MS Mathematics) Summer 2023

Mathematical and Statistical Foundations of Machine Learning (MS Mathematics) Summer 2023

High Dimensional Probability (MS Mathematics) Fall 2022

Mathematics 2 (BS Mathematics Teacher Track) Summer 2022

Mathematics 1 (BS Mathematics Teacher Track)

Fall 2021

Analysis 2 (BS Mathematics)

Summer 2021

SCHOLARSHIPS

Ludwig-Maximilians-Universität München PhD Mentoring Scholarship

February 2023

- *Mentorship program for scientists on their way to an academic career.*
- *Regular mentorship meetings with appointed faculty member.*
- *1500 € travel grant per year.*

PREPRINTS

G. Kaissis, A. Ziller, S. Kolek, D. Rückert. *Generalized Likelihood Testing Adversaries Through the Differential Privacy Lens*. 2022 (arXiv:2210.13028)

G. Kaissis, A. Ziller, S. Kolek, D. Usynin, M. Knolle, R. Heckel, R. Braren, J. Schnabel, K. Hammernik, D. Rückert. *Complex-Valued Signal Processing with Differential Privacy and Neural Network Applications*. 2022