STEFAN KOLEK

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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
Advisor: Prof. Gitta Kutyniok
Topics: Interpretable Deep Learning; Computer Vision; Reliable AI

Technische Universität Berlin, Berlin, Germany   March 2021
MS in Mathematics
Master Thesis: Explainable Artificial Intelligence with Disentangled Representations (Grade 1.0/A+)

Ludwig-Maximilians Universität München, Munich, Germany   August 2018
BS in Mathematics
Bachelor Thesis: Brownian Local Time (Grade 1.0/A+)

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

Munich Center for Machine Learning, Germany**.** *Invitation by Prof. Kutyniok***.**   June 2023

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 € grant per year.*

Konrad Zuse School of Reliable AI April 2023

- *Travel grants of 1000 € per year.*
- *Regular mentorship meetings with fellows of the program.*

PREPRINTS

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

G. Kaissis, A. Ziller, <u>S. Kolek</u>, 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