STEFAN KOLEK

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EDUCATION

Ludwig-Maximilians-Universität München, Munich, Germany   since May 2021
PhD Candidate in Computer Science

Technische Universität Berlin, Berlin, Germany   March 2021
MS in Mathematics

Ludwig-Maximilians-Universität München, Munich, Germany   August 2018
BS in Mathematics

RESEARCH INTERESTS

My research focuses on Explainable AI and Differentially Private Machine Learning.

PUBLICATIONS

G. Kaissis*, **S.Kolek***, B. Balle, J. Hayes, D. Rückert. *Beyond the Calibration Point: Mechanism Comparison in Differential Privacy.* **ICML 2024**

G. Kaissis, A. Ziller, **S. Kolek**, A. Riess, D. Rückert. *Optimal Privacy Guarantees Against Sub-Optimal Adversaries in Differentially Private Machine Learning.* **NeurIPS 2023**

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)**

PREPRINTS

S. Kolek, A. Chattopadhyay, K. Chan, G. Kutyniok, R. Vidal. *Learning Interpretable Queries for Explainable Image Classification with Information Pursuit.* June 2024.

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.*   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

ACADEMIC SERVICE

Workshop
CVPR 2024 Explainable AI for Computer Vision Workshop (Co-organizer)   Jun 2024
Reviewer
Transactions on Machine Learning Research (TMLR).   Oct 2023

TEACHING

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

Mathematical Foundations (BS Mathematics Teacher Track)	*Summer 2024*
High Dimensional Probability (MS Mathematics)	*Fall 2023*
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*
Mathematical Foundations (BS Mathematics Teacher Track)	*Summer 2022*
Mathematical Foundations (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.*
- *Annual Travel Grant.*

Associate of the Konrad Zuse School of Excellence in Reliable AI March 2023

- *Mentorship by transdisciplinary thesis advisory committee.*
- *Annual Travel Grant.*

SUMMER SCHOOLS

International Computer Vision Summer School, Italy. July 2023

TECHNICAL SKILLS

Computer Programming: *Python, PyTorch, Unix, Git*

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