

Anastasia Kireeva

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EDUCATION

ETH Zurich, PhD May 2022 - May 2026 (expected)

Advisors: Prof. Afonso Bandeira, Institute for Operations Research, and Prof. David Steurer, Theoretical Computer Science

Research interests: computational complexity, high-dimensional statistics, optimization

Technical university of Munich, Master's degree Apr 2019 - Dec 2021

Mathematics in Data Science, GPA 1.1/1

Master's thesis: Phase Retrieval with Demixing

Lomonosov Moscow State university, Bachelor's degree with honors Sep 2014 - Jun 2018

Applied Mathematics and Computer Science, GPA 5.0/5,

Bachelor's thesis: Queueing systems with group serving

PUBLICATIONS

A. Kireeva, A. S. Bandeira, and D. Kunisky, "Computational lower bounds for multi-frequency group synchronization," *arXiv preprint arXiv:2406.03424*, 2024.

A. Kireeva and J.-C. Mourrat, "Breakdown of a concavity property of mutual information for non-gaussian channels," *Information and Inference: A Journal of the IMA*, vol. 13, no. 2, 2024.

A. Kireeva and J. A. Tropp, "Randomized matrix computations: Themes and variations," *arXiv preprint arXiv:2402.17873*, 2024.

I. Fatkhullin, A. Barakat, A. Kireeva, and N. He, "Stochastic policy gradient methods: Improved sample complexity for fisher-non-degenerate policies," in *International Conference on Machine Learning*, PMLR, 2023, pp. 9827–9869.

AWARDS AND SCHOLARSHIPS

Apr 2021 - Nov 2021 Linde/Munich Data Science Institute Master Scholarship

2023 Achievement Award for Master Graduate, Women in Math Science, TUM

TEACHING

Fall 2024 Organizer of student research seminar — Statistical-to-Computational Gaps

Fall 2023 Course Coordinator — Mathematics of Data Science

Spring 2023 and 2024 Teaching assistant — Mathematics of Signals, Networks, and Learning

Fall 2022 Teaching assistant — Mathematics of Data Science

2022 — present Supervising MSc and BSc theses at ETH

EXPERIENCE

TUM, Junior Research Assistant Dec 2021 - Mar 2022

Chair Applied and Numerical Analysis and Optimization and Data Analysis

**TUM Data innovation lab & Wellabe GmbH
& Institute for Biological and Medical Imaging, Helmholtz Zentrum**

Apr 2020 - Aug 2020

Defining Corporate Health Classes

Ernst & Young, Data Analysis Intern

Nov 2018 - Feb 2019

Financial Services Risk Management

EXTRACURRICULAR PROJECTS

Migraine Tracker Bot, [Link to the github project](#)

2020 – 2021

Developing and maintaining a Telegram bot for tracking headaches and migraines attacks in an intuitive and minimalistic manner.

Volunteer tutor of olympiad mathematics

2016-2017

Faculty of Mechanics and Mathematics (Moscow State University)

LANGUAGES

Russian Native

English Fluent

German Intermediate (B1)