NIKITA KALININ

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EDUCATION

Institute of Science and Technology Austria (ISTA) — Vienna, Austria
PhD program in Machine Learning — Sep 2022 – present

Higher School of Economics (HSE) — Moscow, Russia
BS in Computer Science GPA 9.12/10, top 2% — Sep 2018 – May 2022

Yandex School of Data Analysis (YSDA) — Moscow, Russia
Master's-level program in Data Science GPA 4.93/5, top 4% — Sep 2019 – May 2021

University of Helsinki — Helsinki, Finland
Exchange student program in Computer Science master program — Jan 2021 – Jun 2021

WORK & RESEARCH EXPERIENCE

Institute of Science and Technology Austria (ISTA) — Sep 2022 – present
PhD student supervised by Christoph Lampert

- Working on Differential Privacy with Applications to Machine Learning and Statistics

Huawei Moscow Research Center — Sep 2021 – Aug 2022
ML Engineer in Computer Vision Laboratory

- Developed the solution for the project of autonomous vehicle parking via Reinforcement Learning

Institute of Science and Technology Austria (ISTA) — Jun 2021 – Sep 2021
Scientific summer intern supervised by Marco Mondelli

- Compared different gradient compression algorithms with the information-theoretic lower bound

Laboratory of Methods for Big Data Analysis (LAMBDA) HSE — Oct 2020 – May 2021
Scientific intern on the project of inference of molecular interaction potential with machine learning

- Compared several active learning models for Graph Neural Networks in the context of molecular potential prediction

Yandex — Jul 2020 – Oct 2020
Machine learning developer intern in Media services

- Trained ranking models for podcast recommendation

International Laboratory of Algebraic Topology and Its Applications (ATA) HSE — Oct 2019 - Jun 2020
Scientific Intern

- Researched quiver theory in the application of Topological Data Analysis

Yandex — Jul 2019 - Nov 2019
Data analyst intern in push notification team

- Analysed data with MapReduce queries

SELECTED PUBLICATIONS

1. Nikita P. Kalinin and Christoph H. Lampert "Banded Square Root Matrix Factorization for Differentially Private Model Training." arXiv preprint arXiv:2405.13763 (2024). (**Accepted to NeurIPS 2024**)

2. Nikita P. Kalinin and Lukas Steinberger. "Efficient Estimation of a Gaussian Mean with Local Differential Privacy." arXiv preprint arXiv:2402.04840 (2024). (**Accepted to AISTATS 2025**)

3. Nikita P. Kalinin, Jalaj Upadhyay, and Christoph H. Lampert. "Continual Release Moment Estimation with Differential Privacy." arXiv preprint arXiv:2502.06597 (2025). (**Submitted to NeurIPS 2025**)

4. Nikita P. Kalinin, Ryan McKenna, Jalaj Upadhyay, and Christoph H. Lampert. "Back to Square Roots: An Optimal Bound on the Matrix Factorization Error for Multi-Epoch Differentially Private SGD" arXiv preprint arXiv:2505.12128 (2025). (**Submitted to NeurIPS 2025**)

5. Monika Henzinger, Nikita P Kalinin, Jalaj Upadhyay "Binned Group Algebra Factorization for Differentially Private Continual Counting" arXiv preprint arXiv:2504.04398 (2025). (authors are in alphabetic order)

6. Nikita P. Kalinin, Simone Bombari, Hossein Zakerinia, Christoph H. Lampert "DP-KAN: Differentially Private Kolmogorov-Arnold Networks" arXiv preprint arXiv:2407.12569 (2024). (**Accepted to AIRoV 2025**)

INVITED AND CONFERENCE TALKS

1. Privacy for ML Google Talk: 45m online talk on the paper *"Banded Square Root Matrix Factorization for Differentially Private Model Training."* 12 June 2024.

2. TU Munich: 1h in-person talk on the paper *"Banded Square Root Matrix Factorization for Differentially Private Model Training."* 16 Jan 2025.

3. German Probability and Statistics Days (GPSD): 23m in-person talk on the paper *"Efficient Estimation of a Gaussian Mean with Local Differential Privacy."* 13 March 2025.

4. Privacy for ML Google Talk: 45m online talk on the paper *"Continual Release Moment Estimation with Differential Privacy."* 16 April 2025.

5. Quirk Learning Teem meeting (Google): 1h online talk on the paper *"Back to Square Roots: An Optimal Bound on the Matrix Factorization Error for Multi-Epoch Differentially Private SGD"* 5 June 2025.

6. CISPA Helmholtz Center: 1h in-person talk on the paper *"Back to Square Roots: An Optimal Bound on the Matrix Factorization Error for Multi-Epoch Differentially Private SGD"* 26 June 2025.

7. AIRoV Conference in Klagenfurt: 15m in-person talk on the paper *"DP-KAN: Differentially Private Kolmogorov-Arnold Networks"* 8 July 2025.

ACADEMIC SERVICE

1. Conference Reviewer: NeurIPS (2025), GCPR (2024, 2025), SatML (2026)

TEACHING EXPERIENCE

1. ISTA Austria — Teaching assistant for Monte Carlo Methods in Statistical Physics (2023), Modern Machine Learning (2024), and Algorithms with Differential Privacy (2025), assisting fellow PhD students.

2. GoTo Summer School (2022) — Taught a week-long course on Reinforcement Learning to high school students.

3. Yandex School of Data Analysis (2020–2023) — Graded assignments and led several recitation sessions for the Machine Learning course, working with undergraduate and master's students.

4. Seasonal Mathematics School Mediana (2019–2021) — Delivered lectures on Olympiad mathematics to advanced high school students.

LANGUAGES

Russian (native), English C1 (IELTS 7.5), German B2, Spanish A1

ACHIEVEMENTS

First Prize of International Math Competition (IMC 2020)
Third Prize of ICPC Moscow Regional Contest 2020
Awarded the Segalovich Scholarship for academic achievements (2019, 2020)
Silver medal of Putnam Mirror Competition 2019
Silver medal of Romanian Masters of physics 2017 as a part of Russian national team
Prize winner of the National Physics Olympiad (2016, 2017, 2018)