NIKITA KALININ

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EDUCATION

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

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

University of Copenhagen — Copenhagen, Denmark
Visiting Student Researcher supervised by Prof. Rasmus Pagh — Aug 2025 – Oct 2025

- Working on Differentially Private algorithm design in the Providentia Group

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

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

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

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

Laboratory of Methods for Big Data Analysis (LAMBDA) HSE — Moscow, Russia
Scientific intern — Oct 2020 – May 2021

- Evaluated active learning models for GNN-based molecular potential prediction.

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

- Trained ranking models for podcast recommendation

Yandex — Moscow, Russia
Data analyst intern in push notification team — Jul 2019 – Nov 2019

- Analysed data with MapReduce queries

SELECTED PUBLICATIONS

Google Scholar statistics: 13 papers, 43 citations, h-index of 5

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). (**Accepted 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). (**Accepted to ICLR 2026**)
5. Monika Henzinger, Nikita P Kalinin[1], Jalaj Upadhyay "Normalized Square Root: Sharper Matrix Factorization Bounds for Differentially Private Continual Counting" arXiv:2509.14334 (2025). (**Accepted to FORC 2026**)
6. Nikita P. Kalinin, Joel Daniel Andersson "Learning Rate Scheduling with Matrix Factorization for Private Training" arXiv:2511.17994 (2025). (**Accepted to FORC 2026**)
7. 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**)

[1] authors are in alphabetic order

INVITED TALKS

1. Privacy for ML Google Talk: 45min online talk on the paper *"Banded Square Root Matrix Factorization for Differentially Private Model Training."* 12 June 2024.
2. TU Munich, Germany: 1h in-person talk on the paper *"Banded Square Root Matrix Factorization for Differentially Private Model Training"* 16 January 2025.
3. Privacy for ML Google Talk: 45min online talk on the paper *"Continual Release Moment Estimation with Differential Privacy"* 16 April 2025.
4. Quirk Learning Team 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.
5. CISPA Helmholtz Center, Saarbrücken, Germany: 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.
6. University of Copenhagen, Denmark: 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"* 29 August 2025.
7. University of Helsinki, Finland: 1h in-person talk titled *"Efficient Noise Correlation for Differentially Private Training via Matrix Factorization"* 9 February 2026.
8. Inria Lille, France: 1h in-person talk titled *"Efficient Noise Correlation for Differentially Private Training via Matrix Factorization"* 19 February 2026.

ACADEMIC SERVICE

1. Conference Reviewer: NeurIPS (2025), GCPR (2024, 2025), SatML (2026), ICML (2026)
2. Journal Reviewer: JASA (2025)
3. Mentorship:
   - Mentored ISTA intern Ali Najar on the project "Continual Mean Estimation under User-Level Differential Privacy" (Jul 2025 – Oct 2025).
   - Co-mentored (with Dr. Edwidge Cyffers) ISTA intern Mihaela Hudisteanu on the project "DP-MicroAdam: Private and Frugal Algorithm for Training and Fine-tuning" (Jul 2025 – Oct 2025). (**Accepted to Women in Machine Learning Workshop NeurIPS 2025)**
4. Workshop Organizer: co-organized workshop "Privacy-Preserving Machine Learning: Towards Tight Guarantees" (**accepted to EurIPS 2025**). **Responsibilities:** coordinating program chairs, inviting speakers, preparing the workshop submission, managing the reviewer selection and paper assignments, overseeing communication with reviewers, authors and invited speakers, reviewing for the workshop, preparing sponsorship application form.

TEACHING EXPERIENCE

1. ISTA (2025) — Gave a 75 min guest lecture in the graduate-level course "Trustworthy Machine Learning" on amplification by subsampling and correlated noise for DP-SGD.
2. Copenhagen University (2025) — Gave a 45m guest lecture in the graduate-level course Advanced Topics in Machine Learning (ATML) on matrix factorization for private machine learning.
3. ISTA — Teaching assistant for Monte Carlo Methods in Statistical Physics (2023), Modern Machine Learning (2024), and Algorithms with Differential Privacy (2025), assisting fellow PhD students.
4. GoTo Summer School (2022) — Taught a week-long course on Reinforcement Learning to high school students.
5. 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.

TECHNICAL SKILLS

Python Stack: PyTorch, Jax, Scikit-learn, Pandas, Matplotlib, XGBoost
Other: C++, SQL, LaTeX

LANGUAGES

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

SHOLARSHIPS, PRIZES AND AWARDS

First Prize of International Math Competition (IMC 2020)
Third Prize of ACM ICPC Moscow Regional Contest 2020
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)