NIKITA KALININ

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EDUCATION

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

• **Courses:** Modern Machine Learning, An Introduction to Stochastic Equations, Monte Carlo Methods in Statistical Physics, Selected Topics in Mathematical Physics, Selected Topics in Statistical Physics, Algorithms with Differential Privacy, Extremal Graph Theory, Dynamical Systems, Algebraic Methods in Combinatorics, Analytic Number Theory

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

• **Courses:** Algorithms and Data Structures, Advanced Linear Algebra, Python, Machine Learning, Natural Language Processing, Computer Vision, Applied Statistics for Machine Learning, Convex Analysis and Optimization, Deep Learning, Reinforcement Learning, Deep Bayesian Methods, Information Theory, Stochastic Models, Game Theory

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

SELECTED PUBLICATIONS

1. Kalinin Nikita P. and Lampert Christoph H. "Banded Square Root Matrix Factorization for Differentially Private Model Training." arXiv preprint arXiv:2405.13763 (2024). (**Accepted to NeurIPS 2024)**
2. Kalinin Nikita P. and Steinberger Lukas. "Efficient Estimation of a Gaussian Mean with Local Differential Privacy." arXiv preprint arXiv:2402.04840 (2024). (**Submitted to AISTATS 2025)**
3. Kalinin Nikita P., Bombari Simone, Zakerinia Hossein, and Lampert Christoph H. "DP-KAN: Differentially Private Kolmogorov-Arnold Networks." arXiv preprint arXiv:2407.12569 (2024).

TECHNICAL SKILLS

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

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 Romanian Masters of physics 2017 as a part of Russian national team
Prize winner of the National Physics Olympiad (2016, 2017, 2018)