

Fedor Noskov

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Summary

- **Birth date:** 27.11.1999
- **Languages:** Russian (native), English (intermediate)

Education

Skolkovo Institute of Science and Technologies (joint program with Higher School of Economics)

MSC, DATA SCIENCE

Sep. 2021 - June 2023

- GPA: A (5/5)
- Relevant courses:
 - High Performance Python Lab
 - Theoretical Methods of Deep Learning
 - Stochastic Analysis
 - Information and Code Theory

MIPT (Moscow Institute of Physics and Technologies)

BSC, APPLIED MATHEMATICS AND PHYSICS, DEPARTMENT OF INNOVATIONS AND HIGH TECHNOLOGIES

Sep. 2017 - Jul. 2021

- GPA: 8.63/10 (4.8/5)
- Recipient of the grant from the President of the Russian Federation
- Basic department: The Interfaculty Department of Information Transmission Problems and Data Analysis
- Relevant courses:
 - Algorithms and Data Structures
 - Applied Statistics and Data Analysis
 - Machine Learning
 - Deep Learning in NLP (by DeepPavlov)
 - Bayesian Approach in Data Analysis
 - Discrete Optimization
- Graduated with distinction

Skills

Programming languages: Python, R, SQL, C/C++

Machine learning and data analysis: scikit-learn, PyTorch, jax, numpy, scipy, cupy, statsmodels, pandas, matplotlib, seaborn, CatBoost

Bayesian methods: pyro, PyMC, bayesian-optimization

NLP: nltk, transformers

Others: Linux, Git, LaTeX, html/css, React.js, Django

Papers

WoS, SCOPUS

Octopuses in the Boolean cube: families with pairwise small intersections, part I

ANDREI KUPAVSKII AND FEDOR NOSKOV

accepted to Journal of Combinatorial Theory, Series B // [arxiv link](#)

Nonparametric Uncertainty Quantification for Deterministic Neural Networks

NIKITA KOTELEVSKII, ALEKSANDR ARTEMENKOV, KIRILL FEDYANIN, FEDOR NOSKOV, ALEXANDER FISHKOV, ALEKSANDR

PETIUSHKO, MAXIM PANOV

accepted to NeurIPS 2022 // [arxiv link](#)

ALEXANDER GASNIKOV, MAXIM ZHUKOVSKII, SERGEY KIM, STEPAN PLAUNOV, DANIIL SMIRNOV, FEDOR NOSKOV

Numerical Analysis and Applications, volume 11, 2018, pages 16–32

OTHERS

Selective Nonparametric Regression via Testing

FEDOR NOSKOV, ALEXANDER FISHKOV AND MAXIM PANOV
submitted to COLT2023

To infinity and beyond

F. NOSKOV
Kvant, 2019, № 8, 44–47

TO APPEAR

Octopuses in the Boolean cube: families with pairwise small intersections, part II

ANDREI KUPAVSKII AND FEDOR NOSKOV

Optimal estimation in mixed-membership stochastic block model

FEDOR NOSKOV AND MAXIM PANOV

Work experience

Huawei Russian Research Institute

ASSISTANT ENGINEER AT NETWORK ALGORITHMS LAB

Moscow
Jun. 2022—Dec. 2022

- Studying non-blocking MPI Allreduce for the Spine-Leaf topology with Andrey Kupavskii
- The project has been classified as it provides a competitive advantage

HDI Lab at Higher School of Economics

RESEARCH INTERNSHIP

Moscow
Dec. 2021—now

- Developing an algorithm for regression with the reject option

Skoltech Statistical Machine Learning Lab.

RESEARCH INTERNSHIP

Moscow
Feb. 2021—now

- Proved convergence of the **NUQ algorithm**; results were submitted to NeurIPS 2022
- Developed an algorithm of optimal estimation in a mixed-membership stochastic block model and proving its consistency
- Developing an algorithm for regression with the reject option and proving its consistency

Laboratory of Combinatorial and Geometric Structures at MIPT

RESEARCH INTERNSHIP

Moscow
Jul. 2021—now

- Applying spread approximation technique to improve a number of combinatorial results
- Estimating the product of intersecting families with correlation inequalities and probabilistic method
- Establishing connection between Friedgut's junta approximation and spread approximation of families in the Boolean cube

Developer Express

INTERNSHIP

Tula
Jul. 2019

- Developing an application on Xamarin and Java

Honors

ALL-RUSSIAN

2020 **Winner**, Olympiad "Ya professional" in mathematics
2019 **Winner**, Olympiad "Ya professional" in mathematics

acknowledgement
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UNIVERSITY

2018 **Winner**, MIPT Student Olympiad in Mathematics
2017 **Prize-winner of the 3rd degree**, MIPT Student Olympiad in Mathematics

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Projects

Abstention in regression and classification

Skoltech

PROJECT IN SKOLTECH STATML LAB

Jan. 2022 - now

- The problem was formulated
- The solution was proposed
- Experiments on synthetic data were run
- The theorem of consistency was proved for classification
- Experiments on real-world data were run with success
- The theorem of consistency was proved for regression

Optimal estimation in Mixed-membership stochastic block model

MIPT, Skoltech

PROJECT UNDER THE DIRECTION OF MAXIM PANOV

Jul. 2020 - May 2022

- Numerical experiments were done, advantages over other algorithms were shown
- Optimal rates of convergence was proven
- Draft of the paper was written

Asymptotically tight estimation of the product of colored cliques' number in graph and its generalization for hypergraphs

MIPT

PROJECT UNDER THE DIRECTION OF ANDREY KUPAVSKII

Feb. 2021 - Feb. 2022

- Proof strategy was developed
- Form of the extremal example was suggested
- Tight upper bound was obtained
- Strong structural results were derived