

# Aleksandr Bogdanov

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## Education

### Physics and Mathematics Lyceum №239

Secondary School

- Weighted GPA on five-point scale: 4.71

Saint-Petersburg, Russia

Sept 2013 - June 2020

### Moscow Institute of Physics and Technology (MIPT)

B.S. in Applied Mathematics and Physics

- Phystech-School of Applied Mathematics and Computer Science, direction «Applied mathematics and physics»
- Department of Intelligent Systems
- Weighted GPA on ten-point scale: 8.71
- Graduate qualification paper on «Gradient approximation using zero-order oracle and memorisation techniques».
- Red Diploma

Moscow, Russia

Sept 2020 - June 2024

### Moscow Institute of Physics and Technology (MIPT)

M.S. in Computer Science and Engineering

- Phystech-School of Applied Mathematics and Computer Science, direction «Computer Science and Engineering»
- Department of Mathematical Fundamentals of Control
- Weighted GPA on ten-point scale: 9.50

Moscow, Russia

Sept 2024 - Present

### Yandex School of Data Analysis

Additional education

- Specialization «Machine learning developer»
- Weighted GPA on five-point scale: 4.08

Moscow, Russia

Sept 2023 - June 2025

## Work Experience

### Laboratory of Mathematical Methods of Optimization (MIPT)

Research Scientist, Assistant, Operations Manager and Lead

- Writing research papers about mathematical methods of optimization
- Assistant (2023y) at the course «Optimization Methods»
- Lead (2023y - 2024y) at the course «Optimization Methods»

Moscow, Russia

Au 2023 - Dec 2024

### Laboratory of Fundamental Research MIPT - Yandex (MIPT)

Research Scientist

- Writing research papers about mathematical methods of optimization

Moscow, Russia

Au 2023 - Dec 2024

### Yandex.Research (Yandex)

Research Scientist

- Writing research papers on mathematical methods of optimization and machine learning

Moscow, Russia

Au 2024 - June 2025

### Moscow State University (MSU)

Teacher

- Teacher (2025y) at the course «Optimization Methods»

Moscow, Russia

Feb 2025 - June 2025

### Laboratory of Fundamental Machine Learning Research (MIPT)

Research Scientist, Operations Manager and Lead

- Writing research papers about mathematical methods of optimization
- Lead (2025y) at the course «Optimization Methods»

Moscow, Russia

Jan 2023 - Present

### Department of Mathematical Fundamentals of Control (MIPT)

Assistant and Teacher

- Assistant (2022y) at the course «Theory and Implementation of Programming Languages»
- Assistant (2023y) at the course «Algorithms and Models of Computation»
- Assistant (2023y) at the course «Theory of algorithms and models of computation»
- Assistant (2024y) at the course «Optimization Methods»
- Senior teacher (2024y) at the course «Optimization Methods»
- Teacher (2024y) at the course «Optimization Methods»
- Assistant (2025y) at the course «Reinforcement learning»

Moscow, Russia

Sept 2022 - Present

Central University (CU)

Moscow, Russia

Lead, Author, Senior Assistant

Sept. 2024 - Present

- Senior Assistant (2024y) at the course «Linear Algebra»
- Senior Assistant (2025y) at the course «Discrete Mathematics»
- Lead (2025y) at the course «Optimization Methods»
- Author (2025y) at the course «Optimization Methods»

Projects

SQL-database «Canteen»

Moscow, Russia

Moscow Institute of Physics and Technology

Sept 2020 - Dec 2021

- Creating my own SQL-database for the Canteen in MS SQL

Quantisation

Moscow, Russia

Yandex.Research

June 2024 - Present

- Research paper about quantisation

Publications

ARTICLES

New aspects of black box conditional gradient: Variance reduction and one point feedback

Aleksandr Veprikov, Aleksandr Bogdanov, Vladislav Minashkin, Aleksandr Beznosikov

Chaos, Solitons & Fractals (Q1) 189 (2024) p. 115654. 2024

CONFERENCES

Application of zero-order stochastic approximation with memoisation technique in the Frank-Wolfe algorithm

Aleksandr Bogdanov, Andrey Veprikov, Vladislav Minashkin, Aleksandr Beznosikov

66 conference MIPT, 2024

Research visits

Management, information and optimisation named after B. T. Polyak

Nizhny Novgorod, Russia

MIPT, HSE, MSU, Wildberries

July 2023

- School on Optimisation Methods and Machine Learning, where the development of Boris Theodorovich Polyak's ideas in modern science was discussed

Management, information and optimisation named after B. T. Polyak

Novosibirsk, Russia

MIPT, HSE, MSU, RRI

July 2024

- School on Optimisation Methods and Machine Learning, where the development of Boris Theodorovich Polyak's ideas in modern science was discussed

Skills

	<ul style="list-style-type: none"><li>• Machine learning</li><li>• Reinforcement learning</li><li>• Time series</li><li>• Bayesian learning</li><li>• Recommendation Systems</li></ul>
Machine learning	<ul style="list-style-type: none"><li>• Computer vision</li><li>• Natural Language Processing</li><li>• Generative models</li><li>• Self-Driving Cars</li><li>• Speech technology</li><li>• Graph models</li></ul>
Programming	C/C++, Python, GO, SQL, assembler
Miscellaneous	Linux, $\LaTeX$ , Microsoft Office, Git
Math	<ul style="list-style-type: none"><li>• Numerical optimization</li><li>• Probability theory</li><li>• Linear algebra</li><li>• Mathematical analysis</li><li>• Mathematical statistics</li></ul>
Languages	English (C1), Russian (Mothertongue)

# Achievements

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2022	<b>Scholarship</b> , Excellent grades scholarship	MIPT
2022-2023	<b>Scholarship</b> , Abramov scholarship	MIPT
2024	<b>Scholarship</b> , Rudakov scholarship	MIPT
2024	<b>Red diploma</b> , Red bachelor's diploma	MIPT
2024-2025	<b>Scholarship</b> , Contribution to the development of numerical methods of optimization	MIPT
2024-2025	<b>Scholarship</b> , Enhanced state academic scholarship	MIPT