

Aleksandr Beznosikov

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📄 arXiv

EDUCATION

Moscow Institute of Physics and Technology

MSc in Applied Mathematics and Physics

Moscow, Russia

Sep 2020 – Present

Moscow Institute of Physics and Technology

BSc in Applied Mathematics and Physics

Moscow, Russia

Sep 2016 – Aug 2020

- Thesis: "Distributed decentralized gradient-free methods for solving non-smooth stochastic convex optimization problems", Advisor: Alexander Gasnikov
- GPA – 3.99/4, 4.99/5, 9.35/10

WORK EXPERIENCE

Moscow Institute of Physics and Technology

Teaching assistant at the Department of Mathematical Fundamentals of Control

Moscow, Russia

Sep 2017 – Present

International Laboratory of SA and HDI

Research assistant

Moscow, Russia

Feb 2021 – Present

RESEARCH INTERESTS

- Stochastic Optimization
- Distributed Optimization
- Machine Learning
- Federated Learning

COMPUTER SKILLS

- Programming Language: **Python, C#, C++, C, SQL**
- **L^AT_EX**
- Operating Systems: **Microsoft Windows, Linux, Mac OSX**

LANGUAGE

- **Russian:** [Mothertongue]
- **English:** [Upper Intermediate]

INTERESTS

- **Basketball:** Candidate Master of Sports in Russia

PUBLICATIONS

- E. Gorbunov, A. Rogozin, A. Beznosikov, D. Dvinskikh, A. Gasnikov. **Recent theoretical advances in decentralized distributed convex optimization**, arXiv preprint arXiv:2011.13259 (November 2020)
- A. Beznosikov, V. Samokhin, A. Gasnikov. **Local SGD for Saddle-Point Problems**, arXiv preprint arXiv:2010.13112 (October 2020)
- A. Sadiev, A. Beznosikov, P. Dvurechensky, A. Gasnikov. **Zeroth-Order Algorithms for Smooth Saddle-Point Problems**, arXiv preprint arXiv:2009.09908 (September 2020)
- A. Bazarova, A. Beznosikov, A. Gasnikov. **Linearly Convergent Gradient-Free Methods for Minimization of Symmetric Parabolic Approximation**, arXiv preprint arXiv:2009.04906 (September 2020)
- A. Beznosikov, A. Sadiev, A. Gasnikov. **Gradient-Free Methods for Saddle-Point Problem**, published in Communications in Computer and Information Science (CCIS) series, arXiv preprint arXiv:2005.05913 (May 2020)
- A. Beznosikov, S. Horváth, P. Richtárik, M. Safaryan. **On Biased Compression for Distributed Learning**, arXiv preprint arXiv:2002.12410 (February 2020)
- A. Beznosikov, E. Gorbunov, A. Gasnikov. **Derivative-Free Method For Decentralized Distributed Non-Smooth Optimization**, published in IFAC-PapersOnLine, arXiv preprint arXiv:1911.10645 (November 2019)

CONFERENCE TALKS

- 15 July 2020, Mathematical Optimization Theory and Operations Research (MOTOR 2020), Novosibirsk, Russia (online), A. Beznosikov, A. Sadiev, A. Gasnikov "Gradient-Free Methods for Saddle-Point Problem"
- 12 July 2020, 21st IFAC World Congress 2020, Berlin, Germany (online), A. Beznosikov, E. Gorbunov, A. Gasnikov "Derivative-Free Method For Decentralized Distributed Non-Smooth Optimization"
- 2 December 2019, Quasilinear Equations, Inverse Problems and Their Applications 2019, Moscow, Russia, A. Beznosikov, E. Gorbunov, A. Gasnikov "A Derivative Free Method for Distributed Optimization"
- 23 November 2019, The 62th MIPT Conference, Moscow, Russia, A. Beznosikov, E. Gorbunov, A. Gasnikov "Derivative-Free Sliding For Distributed Optimization", **winner**
- 25 November 2017, The 60th MIPT Conference, Moscow, Russia, A. Beznosikov, K. Teimurazov "The problem of creating models of the electronic queue and student accounting system and their application in practice", **winner**

RESEARCH VISITS

- 2 August – 23 August 2020, Sirius University of Science and Technology, Sochi, Russia
- 9 January – 12 February 2020, Visual Computing Center, KAUST, Thuwal, Saudi Arabia (worked with Peter Richtárik)

SCHOLARSHIPS, HONORS AND AWARDS

University

2016 - Present

- 2020-2021 Increased State Academic Scholarship for 4 year bachelor and master students at MIPT
- 2020 Gazprom Bank personal scholarship
- 2020 Moscow region government scholarship
- 2020 Personal merit scholarship at MIPT
- 2019-2020 Increased State Academic Scholarship for 4 year bachelor and master students at MIPT
- 2018-2019 Increased State Academic Scholarship for 4 year bachelor and master students at MIPT
- 2018-2019 Author of problems and organizer of the student olympiad in discrete mathematics
- 2017: First Prize at MIPT's Team Mathematical Tournament
- 2017-2019: Abramov scholarship for 1-3 year bachelor students with the best grades at MIPT

School

2016 and earlier

- 2015: Silver medal in IEPHO (International Experimental Physics Olympiad)
- 2014-2015: Russian President's Scholarship, for high school student
- 2015: Prize-Winner, All-Russian School Physics Olympiad, Final Round
- 2014: Prize-Winner, All-Russian School Physics Olympiad, Final Round
- 2014-2015: Russian President's Scholarship, for high school student
- 2015-2016: Winner, All-Russian School Programming Olympiad, Region Round
- 2014-2016: Winner, All-Russian School Physics Olympiad, Region Round
- 2014-2016: Winner, All-Russian School Maths Olympiad, Region Round

TEACHING

Moscow Institute of Physics and Technology

Moscow, Russia

Teaching assistant at the Department of Mathematical Fundamentals of Control

Sep 2017 - Present

- Spring 2021: Stochastic process
- Fall 2020: Probability theory
- Fall 2020: Discrete analysis
- Spring 2020: Stochastic process
- Fall 2019: Probability theory
- Fall 2019: Discrete analysis
- Fall 2018: Discrete analysis
- Fall 2018: Databases
- Fall 2017: Databases

Summer school in Physics and Mathematics Lyceum

Syktyvkar, Russia

Director, Head of teaching staff

Aug 2018, Aug 2019

- Summer school for gifted children from provincial towns and villages