

# Nikita Yudin

Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Dorodnicyn Computing Center, Moscow, Russia  
nikyudin96@gmail.com • <https://github.com/neyudin> • +7 (915) 045-45-55 • ORCID=0000-0002-4505-7727 • Scopus Author ID: 57222259323

## EDUCATION

### **Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Dorodnicyn Computing Center**

Moscow, Russia

- Ph.D. in Theoretical Foundations of Informatics 2020 – Present
  - Scientific supervisors: Alexander Gasnikov and Konstantin Vorontsov
  - Thesis: Adaptive Gauss-Newton Methods and Its Applications in Machine Learning and Numerical Optimization Problems

### **Lomonosov Moscow State University**

Moscow, Russia

- M.S. in Logical and Combinatorial Methods for Data Analysis 2018 – 2020
  - Degree with honors
  - GPA: 5 / 5, 4 / 4

### **Lomonosov Moscow State University**

Moscow, Russia

- B.S. in Mathematical Methods in Information Processing and Decision-Making 2014 – 2018
  - Degree with honors
  - GPA: 4.85 / 5, 3.85 / 4

## WORK EXPERIENCE

### **Laboratory of Mathematical Methods of Optimization**

Dolgoprudny, Moscow Region, Russia

- Supervisor: Alexander Gasnikov 2022 – Present
  - Description: Conducting research on various topics co-financed by Moscow Institute of Physics and Technology.

### **Laboratory of Advanced Combinatorics and Network Applications**

Dolgoprudny, Moscow Region, Russia

- Supervisors: Alexander Gasnikov, Andrei Raigorodskii 2021 – 2022
  - Description: Conducting research on different tasks co-financed by Moscow Institute of Physics and Technology.

### **Multimedia Systems and Technology Lab**

Dolgoprudny, Moscow Region, Russia

- Supervisor: Viktor Dvorkovich 2021
  - Description: Conducting research on different tasks co-financed by Moscow Institute of Physics and Technology.

### **Machine Intelligence Laboratory**

Dolgoprudny, Moscow Region, Russia

- Supervisor: Konstantin Vorontsov 2018 – 2019
  - Description: Conducting research on topic modeling, machine learning, natural language processing techniques for transaction data analysis.

## RESEARCH EXPERIENCE

### **National Research University Moscow Institute of Physics and Technology**

Dolgoprudny, Moscow Region, Russia

- Topic: Accelerated Methods for Alternating Minimization 2021 – Present
  - Supervisor: Alexander Gasnikov
  - Description: Conducting research on various acceleration techniques for alternating minimization in convex and non-convex optimization.

### **Educational Center "Sirius"**

Sochi, Russia

- Topic: Adaptive Gauss-Newton Methods Aug 2020 – 2022
  - Supervisors: Alexander Gasnikov, Dmitry Kamzolov
  - Description: Conducting research on quasi-Newton methods development, investigating properties of Gauss-Newton methods and prox-linear algorithms.

### **Lomonosov Moscow State University**

Moscow, Russia

- Topic: Variational Inference for Neural Stochastic Differential Equations 2019 – 2020

- Supervisors: Konstantin Vorontsov, Konstantin Rudakov
- Description: Proposition of effective methods for robust fitting of Wiener processes.

**Lomonosov Moscow State University**

Moscow, Russia

- Topic: Application of Co-Occurrence-Based Topic Models to Bank Transaction Data Analysis 2018 – 2019
  - Supervisors: Konstantin Vorontsov, Konstantin Rudakov
  - Description: Research on application of NLP techniques for transaction data analysis.

**Lomonosov Moscow State University**

Moscow, Russia

- Topic: Indirect Control of Dynamic Object 2017 – 2018
  - Supervisor: Sergey Gurov
  - Description: Design of an online system for real-time gesture recognition.

**Lomonosov Moscow State University**

Moscow, Russia

- Topic: Hand Movement Detection Using Electroencephalographic Signal 2016 – 2017
  - Supervisor: Sergey Gurov
  - Description: Research on multidimensional signal analysis and classification of EEG-recorded actions.

**PUBLICATIONS**

(\* denotes equal contribution)

**JOURNALS**

*Adaptive Gauss–Newton Method for Solving Systems of Nonlinear Equations*

**Nikita Yudin**

Doklady Mathematics, 2021, Vol. 104, No. 2, pp. 293–296.

*Modified Gauss–Newton method for solving a smooth system of nonlinear equations*

**Nikita Yudin**

Computer Research and Modeling, 2021, Vol. 13, No. 4, P. 693–719 (Russian)

**CONFERENCES**

*Embedded Online Machine Learning* (oral)

**Nikita Yudin\***, Dmitry Kamzolov\*, Vadim Sinolits, Alexey Erchenko, Pavel Golovkin

International Conference Engineering and Telecommunication (En&T), IEEE, 2021

**AWARDS**

- Lomonosov Universiade in Applied Mathematics and Informatics 2018  
Description: Prize-Winner

**TALKS**

- International Conference Engineering and Telecommunication (En&T) (English) 2021  
Topic: Embedded Online Machine Learning
- Conference "Optimization without Borders" (English) 2021  
Topic: Flexible Gauss-Newton Methods

**TEACHING**

- Reinforcement Learning course at MIPT 2022 – Present  
Role: Lecturer
- Optimization Methods course at MIPT 2021 – Present  
Role: Teaching fellow
- Neurobayesian Methods at HSE, MSU and YSDA 2018 – 2021  
Role: Teaching assistant
- Bayesian Methods in Machine Learning at HSE, MSU and YSDA 2018 – 2021  
Role: Teaching assistant
- Probabilistic Topic Models at MIPT and MSU 2020 – 2021  
Role: Teaching fellow
- Mathematical Foundations of Machine Learning at MIPT, MSU and MAI 2020 – 2021  
Role: Teaching fellow

**LANGUAGES**

- Russian: Mother tongue.
- English: Fluent.

**SKILLS**

- Machine Learning, Optimization Methods and Control, Reinforcement Learning, Deep Learning, Probabilistic Machine Learning, Natural Language Processing, Computer Vision, Automatic Speech Recognition
- Python, Pytorch, JAX, TensorFlow, Scientific Python Packages (NumPy, SciPy, Matplotlib, pandas), scikit-learn, C/C++, x86 Assembler, both Linux and Windows OS experienced user