

# NIKOLAI GAIDUCHENKO

Researcher. Data Scientist. Innovator.

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## WORK EXPERIENCE

### Middle Data Scientist

PJSC «Almaz», R&D dept.

12.18 – present

Moscow, Russia

Hypersonic aircraft vehicle trajectory generation, forecasting, and classification using Deep Learning models

### Junior Data Scientist

Machine Intelligence Laboratory by K.V. Vorontsov

09.18 – 10.19

MIPT, Dolgoprudny, Russia

One-click Deep Learning pipeline for synthetic document dataset generation, text recognition models

### Engineering Assistant

Samsung R&D, AI Algorithms Lab

06.18 – 09.18

Moscow, Russia

Deep learning and computer vision for self-driving robot

### Engineering Assistant

Laboratory of Design of Special Computer Systems Architectures

10.17 – 12.18

MIPT, Dolgoprudny, Russia

Sub-array antenna modeling app for CAD Radar Python package «PyPhased»

## PUBLICATIONS

### Conference Proceedings

- N. E. Gaiduchenko, P. A. Gritsyk, and Y. I. Malashko, “Multi-step ballistic vehicle trajectory forecasting using deep learning models”, in 2020 International Conference on Engineering and Telecommunication EnT, Dolgoprudny, Russia, 2020.
- N. E. Gaiduchenko and P. A. Gritsyk, “Hypersonic vehicle trajectory classification using convolutional neural network”, in 2019 International Conference on Engineering and Telecommunication EnT, Dolgoprudny, Russia, 2019.
- N. E. Gaiduchenko and O. A. Lashinin, “To the question of the temperature dependence of the coefficient of surface tension of water. Intermediate results.”, in MIPT 59<sup>th</sup> National Scientific Conference, Dolgoprudny, Russia, 2016.

## ACHIEVEMENTS



Russian National Phystech Olympiad  
Prize winner: Physics



MIPT Radio Engineering Competition  
Prize Winner



Abramov's Scholarship  
for excellent progress in 2018



Increased State Academic Scholarship  
for excellent progress in 2020, 2021

## IT SKILLS

- Python:** PyTorch, Keras, scikit-learn, PyQt5, pandas, numpy
- ROS, Arduino, AVR Micro Controllers
- Bash, Git, Docker, Google Colaboratory, experience in using AWS Amazon web services for complex calculations
- LaTeX, Adobe Photoshop, Adobe Illustrator, extensive experience in design and presentations

## RELEVANT COURSES



Advanced C programming in UNIX environment

by D. V. Lunev, core QEMU, Parallels, OpenVZ developer



Kalman and Bayesian Filters in Python  
by Roger R. Labbe



Machine Learning and Data Analysis  
on Coursera by MIPT & Yandex



Building Deep Neural Networks in Python  
by Andrey Sozykin



ROS Courses and Tutorials  
by Robot Ignite Academy

## LANGUAGES

English

Advanced (C2)

Russian

Native speaker

Japanese

Beginner (A1)



## EDUCATION

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### Bachelor + Master

#### Moscow Institute of Physics and Technology

📅 2015 – present (6<sup>th</sup> year)      📍 Dolgoprudny, Russia

Phystech-School of Radio Engineering and Computer Science  
Applied Mathematics and Physics, GPA: **9.2/10.0**

- Mathematics (Linear Algebra, Differential Equations, Probability, Statistics)
  - General Physics, Theoretical and Quantum Mechanics, Field Theory, Statistical Physics
  - Engineering, CAD, Micro Controllers, Radar Applications, Digital Signal Processing, Signal Theory
  - Cryptography, Information Security Theory, Information Theory
  - Computer Science, Computational Mathematics, ML algorithms and principles, Computer Vision
  - Economics, Private Investments
  - Philosophy, Management Psychology, Logics
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#### Regional Lyceum for Gifted Children

📅 2013 – 2015      📍 Penza, Russia

Diploma with honours

## TRAINING

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#### SMILES Summer School of Machine Learning (Scoltech)

📅 2020      📍 Moscow, Russia

#### Kaspersky Cybersecurity Summer Lab

📅 2017      📍 Kaluga Region, Russia

#### MIPT Summer Olympiad School

📅 2015      📍 Dolgoprudny, Russia

#### MIPT Extramural School of Physics and Mathematics

📅 2011-2015      📍 Dolgoprudny, Russia

Diploma with honours: physics, mathematics, computer science

#### Nanograd Summer School (by RUSNANO School League)

📅 2011-2014      📍 Russia

Research and Marketing Projects for Hevel, Hemacore, Bukvoed

## MEDIA SKILLS

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- Adobe Photoshop & Illustrator
- Adobe After Effects & Premiere, Final Cut
- Cinema 4D, Mocha
- Microsoft Powerpoint, Prezi
- Adobe XD, Adobe InDesign

## ACTIVITIES

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Motion design

Guitar

Singing

Swimming

Bowling