

Aleksandr Nevarko

DATA SCIENCE · PHD DEGREE PROGRAM

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Summary

I am a 6-year student at MIPT and a 2-year student at Skoltech. I am keen on programming, physics, maths and mostly all other technical sciences. My main hobbies are cars and chess. I have an entrepreneurial spirit and a lot of will to create new interesting projects. I am looking forward to learning new areas of computer science and applications of physics and maths in it.

Experience

AURORAI

COMPUTER VISION ENGINEER

- Digit detection and classification on metal objects.

Moscow, Russia

Mar 2022 - present

Samsung AI Center

RESEARCH INTERN

- Personalized selfie editing project.
- Developed a conditional model.

Moscow, Russia

Jun 2021 - Jul 2021

Skoltech CV Lab

RESEARCHER

- Asymmetric telepresence system via Microsoft Kinect and VR glasses. 3D Computer vision. Scientific director prof. Victor Lempitsky.

Moscow, Russia

Dec 2020 - present

Huawei

ENGINEER IN RESEARCH AND DEVELOPMENT

- Data analysis digital signal processing in fiber optic communication systems.

Moscow, Russia

Nov 2020 - Feb 2021

Acronis

GOLANG INTERN IN RESEARCH AND DEVELOPMENT

- Developing REST API Intelligent Fuzzing tester as a graduate work. The tool may become an opensource competitor for an analog from Microsoft Research RESTLer. Scientific director Anna Melekhova.

Moscow, Russia

Sep 2019 - Jul 2020

Laboratory for modeling and designing special computing architectures, MIPT

PYTHON DEVELOPER / PHYSICIST

- Integrated a physical model of a ballistic rocket into the project.
- Developed a physical engine for phased antenna arrays.
- Improved a graphical phased antenna array geometry redactor.

MIPT, Moscow, Russia

Jul 2019 - Oct 2020

Projects

PetSearch

WINNER OF LEADERS OF DIGITAL TRANSFORMATION 2021 HACKATON

- A system, that lets users search for their lost dogs using data from CCTV cameras. It includes several components:
- Dogs detection in the CCTV camera images
- Dogs classification by color, tail length and breed
- Finding out whether the dog has an owner nearby in the image
- Image information recognition (data, time, place)
- Wrapping everything up in a web-service

Moscow

Oct 2021

Energy of Breakthrough (<https://github.com/maftukh/energy-hack>)

WINNER

- Control system for gas distribution network of a city
- Predicting optimal parameters for gas valves with restrictions for best gas distribution of the network

Moscow

Oct 2021

BCG GAMMA Hackathon on Digital Healthcare

(<https://github.com/AlexanderNevarko/bcg-hack>)

Moscow

PARTICIPANT

Jul 2021

- Analysis of SARS and flu incidence rate data.
- Search for factors that affect the non-epidemiological incidence rate in different cities of Russia.

MICCAI AutoImplant 2021 Challenge

(<https://github.com/aniton/AutoImplant-2020-2021>)

Skoltech

PARTICIPANT

May 2021

- Problem: automatic cranial implant design. Create a solution, that given a skull with a defect, generates a 3D model of a cranial implant specifically for the patient.
- 3 approaches tried: baseline from authors, winning solution from 2020 challenge, 2020 SOTA 2D segmentation network (SAUNet) applied for 3D.
- SAUNet showed the best result.

Emotion tracker

(<https://github.com/AlexanderNevarko/emotion-tracker>)

Skoltech

ML ENGINEER

Dec 2020

- A system for real-time emotion tracking using web-camera. Useful to collect better feedback from online lectures and seminars.
- Dataset collection and analysis.
- Different approaches from classical CV to neural networks and Facebook ready-to-run pre-trained networks tested for speed and accuracy.
- Implementation for laptop web-camera usage.

Public places access system (frtk.mipt.ru / 8ka.mipt.ru)

MIPT

PROJECT LEAD

2017-2018

- Website with online timetable for some shared recourses in dormitories. Implemented for washing machine rooms.
- Booking and paying possibility on the site.
- Hardware electronic locker for key-card access to washing machine room.
- Developed by a team of 4 members, sold to 2 dormitories in MIPT.
- Won RedBull Basement University 2018 in Russia with that project.

Education

Moscow Institute of Physics and Technology

Dolgoprudny, Russia

DEPARTMENT OF RADIO ELECTRONICS AND CYBERNETICS

2016 - 2022

SUB-DEPARTMENT OF THEORETICAL AND APPLIED INFORMATICS, AFFILIATED WITH ACRONIS

2018 - 2020

INSTITUTE FOR INFORMATION TRANSMISSION PROBLEMS

2020 - 2022

Skoltech

Skolkovo, Russia

DEPARTMENT OF DATA SCIENCE

2020 - 2022

Skills

Languges English (upper intermediate), German (B1)

Programming Python, Go, C/C++, git, Linux

Maths Linear algebra, mathematical analysis, differential equations, probability theory, etc.

Physics General physics, quantum mechanics

Soft Skills Leadership, communications, teamwork

Honors & Awards

2018 **Winner of the Russian stage**, Red Bull Basement University

Moscow / Berlin

2016 **Final Stage Winner**, Russian National Physics School Olympiad

Sochi, Russia