Alexandra Senderovich

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Education

2018 – 2022 **National Research University Higher School of Economics**, Faculty of Computer Science, Bachelor's Programme "Applied Mathematics and Information Science"
GPA: 9.68 / 10 | Cumulative rating: 1 / 225
Relevant courses:
- Machine Learning
- Deep Learning, Deep Learning in Audio, Reinforcement Learning
- Bayesian Methods for Machine Learning
- C++, Python programming
- Algorithms and data structures
- Computer architecture and operating systems
- Distributed Systems

2021 **2-week School "Fundamentals of Bioinformatics and Mathematical Biology"**
at Education Center "Sirius" for talented students
Courses:
- Algorithms in Bioinformatics
- Protein Structure
- Molecular Biology
- Organic Chemistry

2019 **Summer internship "Fundamentals of Computer Vision and Machine Learning"**
by Associate Professor, PhD A. Konushin, grade: 10 points out of 10
- Implemented the calculation of HOG descriptors
- Built models and trained artificial neural networks using scikit-learn and keras

Work Experience

2021 **Summer@EPFL, Switzerland, research internship.** The project topic: "D-Cliques Construction", research conducted at SACS (Scalable Computing Systems Lab) under supervision of Postdoc Erick Lavoie
- Worked with decentralized machine learning
- Developed distributed algorithms for building a communication topology and methodology for comparison of these algorithms

Achievements

2021 First place at **Bachelor Student Research Paper Competition** held by National Research University Higher School of Economics

2020, 2021 First-degree diploma at **"Vysshaya Liga"** Olympiad in Applied Mathematics and Informatics

2019 Second place with the team "Granb" at **Hack.Moscow v3.0** hackathon
- Developed a parser for websites using Python's BeautifulSoup library
- Implemented a search for songs using last.fm API

Projects

2021 **Group research project** "Stable Neural Network Training Algorithm Based on SVD of Convolutional Layers", supervisor – Associate Professor, PhD Maxim Rakhuba
- Implemented a new compressed convolutional layer
- Proved a theorem about singular values of a convolutional layer in case of multidimensional images

2020 **Group software project** "The development of a system for generating 3D-faces"
- Worked with 3D computer graphics
- Implemented one out of two steps of an algorithm for example-based facial rigging

2020 Participated in **The School of Future CTO**
- Worked on a service for videocalls
- Implemented ORM and Rest Api in Go for database interaction

Scholarships

2018 – current Grant of the President of the Russian Federation for talented students

2022, January-June Travel Grant and Scholarship for the winner of Bachelor Student Research Paper Competition

2018 – 2020 Moscow Government scholarship for distinguished achievements in education

Skills

Python: ●●●●●
PyTorch: ●●●●●
LaTeX: ●●●●●
PySpark: ●●●●○
C/C++: ●●●●○
Java: ●●●○○
SQL: ●●●○○
Go: ●●○○○

Languages: Russian (Native), English (C1; IELTS: 8.0 out of 9, obtained in 2020), German (A2)

Scientific interests

Machine Learning, Computer Vision, Audio Processing, Algorithms, Bioinformatics, Linguistics