Boris Starkov

pennyroyaltea.github.io | github.com/pennyroyaltea

Education

Saint-Petersburg State University 2018-2022, St. Petersburg, Russia

Undergraduate at the Department of Mathematics and Computer Science

Excellent marks in **Algorithms & Data Structures**, **Design Patterns**, **C++**, **Kotlin**, **Discrete Math** | GPA: 3.51 / 4

Physical-Technical High School 2014-2018, St. Petersburg, Russia

Honor student

In-depth study of maths, physics, computer science and english

Successfully participated in national school contests in **Competitive Programming** and **Maths**

Illinois Math & Science Academy 2017, Aurora, Illinois, USA

Exchange student

Worked on school projects in a multicultural international team, dramatically improved **communication & collaboration skills**

Experience

Yandex LLC. 2019, Moscow, Russia

C++ Backend developer intern at News team

Refactored existing news delivery algorithm — made it distributed, effective and fault-tolerant, which improved interaction experience for both internal consumers and news websites

Skills improved: **C++17**, **Software Design Patterns**, **Microservices**, **Web**, **Concurrent Programming**, **Data Structures**

BIOCAD 2017, St. Petersburg, Russia

Bioinformatics high school intern

Applied machine learning algorithms to bioinformatics protein folding problem, created an algorithm that performed better than a naive approach

Skills improved: **Python**, **Basic Machine Learning**, **Bioinformatics**, **Linux Shell**

Projects

Serverless sudoku solver

Github repo

Developed from scratch a program that runs on amazon lambda and is capable of solving sudoku of any difficulty using the SAT solving library. It has rest api and an interface for telegram bot.

Skills improved: **Python**, **Serverless**, **REST API, Unit Testing, Discrete Maths**

Gradcam + imagenette experiment

Google colab

Applied resnet18 model to classify images from imagenette dataset. Used gradcam to visualize most important zones and figure out why the model underperformed on some objects.

Skills improved: **Deep learning**, **Computer Vision**, **Scientific Python**

Skills & Achievements

- Great knowledge of **algorithms** and **data structures** resulting in high **competitive programming** results — top-50% on final round of Russian national informatics contest, highest rating of 2091 over 75 different contests on Codeforces, 16th place out of 120 teams in the North-Western Russia Regional ACM ICPC
- Ability to write and read code in many languages including **C++**, **Java / Kotlin**, **Python**, **Haskell**. Knowledge of modern design patterns in both **OOP** and **Functional** paradigms
- Basic understanding of **Machine Learning** algorithms, experience with applying **Data Science** in real-life projects
- Profound knowledge of **Advanced Maths**, including **Probability Theory**, **Discrete Maths**, **Computational Complexity Theory** and more. Ability to quickly understand new concepts
- Ability to efficiently **collaborate in a team** — from both **team competitive programming** contests and team school projects, as well as working as a mentor in a computer science summer camp for teenagers
- Perfect **English** skills (C1-C2 level)