NIKOLAY IGNATOV

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EDUCATION

National Research University Higher School of Economics, **Sep. 2020 - Feb. 2022**
Bachelor of Science in Applied Mathematics and Computer Science Saint-Petersburg, Russia
GPA: 8/10
National Research University of Information Technologies, Mechanics and Optics, **Feb. 2022 - Present time**
Bachelor of Science in Applied Mathematics and Computer Science Saint-Petersburg, Russia
Relevant courses:

- **Programming** C++, Algorithms and Data Structures, Unix, Computer Architecture and Operating Systems, Functional Programming (Haskell), Bioinformatics, Formal Languages, Python, Java
- **Math** Calculus, Analysis, Linear Algebra, Group Theory, Graph Theory, Combinatorics, Mathematical Logic

SKILLS

Programming Languages	C++, Python, Haskell, Java, Assembler, C
Technologies and tools	CMake, QT, Doctest, QtTest, Git, LaTex, Bash, jq, libcurl, nlohmann::json
Communication	English (Upper-intermediate), Russian (native)

EXPERIENCE

Tutor for 5th - 11th grade students Aug 2020 - present time

Math teacher in Presidential Physics and Mathematics Lyceum No. 239 (responsible for preparing 11th grade students for math Olympiads)

PROJECTS

C++ labs (university program) → *C++, C, libcurl* Sep 2020 - Jun 2021

- **Bmp-editor** → Implemented an application, that crops and rotates an image in Bmp format. Developed a RAII wrapper over libcurl that allows to download Bmp images from the Internet.

My Basket → *C++, nlohmann::json, QT, Doctest* Feb 2021 - Jun 2021

- Developed a desktop application that searches for recipes by product names in the store's database. Using special algorithms, the application allows the client to get the appropriate products from the selected category of the store (basic, economy, vip) with minimal costs.
- Implemented a logger for finding errors, unit tests covering all search functions, support for all Unicode languages when searching.

Gradient descent algorithms → *Python, numpy, pandas, sympy* Feb 2022 - Mar 2022

Developed a project that compares gradient descent algorithms (dichotomy, gradient descent with constant learning rate and exponential change and gradient descent with Wolphe conditions) to find the minimum of a function in terms of convergence rate, number of function calls.

Java labs (university program) → *Java* Feb 2022 - Mar 2022

- **Expression parser** → Implemented a parser for calculating arithmetic expressions by recursive descent with exception support.
- **Generating interface implementation** → Developed an application, that generates an implementation of an arbitrary interface using Java reflection.