MAKLAKOV ARTYOM

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🐙 worthlane

📍 Moscow, Russian Federation

Education

Moscow State School 57

High school, specialized physics class

2019-2023

Moscow Institute of Physics and Technology

Phystech School of Applied Mathematics and Informatics

2023-PRESENT

Grades

Programming disciplines

GPA: **9.33 / 10**

Overall

GPA: **8.42 / 10**

HUAWEI educational course (MIPT)

First semester: **9 / 10**

Second semester: **10 / 10**

Projects

Dec 2023 - May 2024   Tools: C/C++, ASM, Graphviz

"57Lang" programming language with x86 compiler

Esoteric programming language with three stages of code processing:
Frontend generates AST-tree from code;
Middle-end optimizes AST-tree;
Backend translates AST-tree to intermediate representation, which is used by compiler for ELF-file generation.

Sep 2023 - May 2024   Tools: C/C++, Python

Laboratory works from algorithms course

Repository contains laboratory works such as:
- Comparison of the speed of a dynamic array and a singly linked list
- Sorts comparison
- Heaps analysis
- Hashing analysis
- Trees research

April 2024   Tools: C/C++, ASM, Kcachegrind, Python

Assembly hashtable optimizations

Analysis of the hashtable requests speed. Optimizations with SIMD operations and assembler insertion blocks.

March 2024   Tools: C/C++, ASM, SFML

Mandelbrot set generation

Studying the speed impact of replacing usual instructions with SIMD.

November 2023   Tools: C/C++, Graphviz, LATEX

Differentiator

Program generates scientific work, that contains equations derivatives, simplifications, Taylor series and graphics. Result is a LATEX document, that contains funny phrases and pseudoscientific nonsense.

November 2023   Tools: C/C++, Graphviz

Akinator

Program can guess and remember any data by saving it in the tree representation.

Skills

- C/C++
- Git
- Assembly x86-64
- Algorithms and data structures
- Python
- LATEX
- Make
- GDB
- Graphviz
- Kcachegrind
- SFML

Achievements

International Experimental Physics Olympiad (IEPHO)

Two times bronze medal

2019, 2020

Russian National Olympiad in Physics

The final stage prize-winner

2022

First-Leveled Russian Olympiads

Multiple winner in physics and mathematics

2020-2023

Maxwell Physics Olympiad

The final stage winner;
The regional stage winner
(the final stage was cancelled)

2019, 2020

Languages

- Russian (Native)
- English (Intermediate)

Soft Skills

- Sociable
- Hard-working
- Responsible
- Organized

Sphere Of Interests

- Games development
- Operating systems
- Machine learning
- System programming
- Compiler technologies

Others

From an early age, I was interested in computer games. And not only as a player, but also as a creator. I was creating mods for Minecraft and maps for Counter-Strike. Also I am a huge hockey fan and player. I really like traveling and listening to music.