

# Ivan Vodolazhenko

MIPT Bachelor Student

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- 1progwriter1

# Skills -

- ► C++
- C
- Assembly x86\_64
- Python
- NVDIA CUDA
- PTX Assembly
- **►** LLVM
- Kcachegrind
- CMake
- **▶** Git
- Tex
- Dot Language
- Make
- **►** IIdb

#### **Education**

2012 – 2023 High School Education

Graduated with a gold medal.

2012 - 2019 Musical Education

Graduated with a degree in accordion.

2020 – 2023 Physics & Mathematics & Informatics & Chemistry

The prize-winner of the final tests.

2023 – ... Bachelor – Informatics & Computer Engineering

MIPT

**ZFTSH MIPT** 

General School

**Musical School** 

Finished:

The course of system programming and compiler technologies, C, assembly, Computer Architecture and Operating Systems

Currently:

Concurrency course, C++, Algorithms

## **Experience**

07.2024 - **Baikal Electronics** 08.2024 *Intern in GPGPU Group* 

Creating simulator of GPGPU. Working with CUDA, PTX assembly.

### Languages

Russian

Native language

English

12+ years of studying, B2 Level

### **Grades**

**MIPT Overall Average** 

7.8/10.0

MIPT Programming Average

8.7/10.0

#### **Achievements**

2022 Olympiad

Phystech International Prize-winner in physics.

2022 **Sport** 

Tennis

Candidate for Master of Sports.

# **Projects**

2024 Graphic Editor

Tools: C++, SFML

A graphic editor designed and implemented from scratch using the SFML graphics library. It supports pencil drawing, creating geometric shapes, working with files and applying filters. New tools and filters can be added using dynamically linked plugins that comply with the developed standard.

[Link to GitHub]

2023 – 2024 My Programming Language

Tools: C, Assembly x86\_64, Dot

Compiler for my own programming language. It consists of a parser, a simple optimizer and a translator. It compiles program for my processor emulator or for intel x86\_64 architecture.

[Link to GitHub]

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# Soft Skills -

- Responsible
- Hard-working
- Punctual
- Reliable
- Sociable

2024 Hash Table

Tools: C, Assembly x86\_64

Implementation of a hash table and optimization of its operation using low-level machine code (SIMD instructions, inline assembly language, functions written in assembly language).

[Link to GitHub]

2024 **3D Sphere** 

Tools: C++, SFML

Rotating 3D sphere with changing illumination and ray tracing.

[Link to GitHub]

2024 Mandelbrot

Tools: C, Assembly x86 64

Creating an image of the Mandelbrot set and optimizing the creation process using SIMD instructions.

[Link to GitHub]

2023 Processor

Tools: C

My processor emulator. It supports a set of commands written in

my assembly language.

[Link to GitHub]

2023 **Differentiator** 

Tools: C, Dot

This program finds the derivative of any mathematical expression

and creates a LaTex document with the result.

[Link to GitHub]

2024 My Printf

Tools: C, Assembly x86\_64

Standard C function *printf* realization using NASM. It is compatible

with stdcall.

[Link to GitHub]