

Nikita Fedorov

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ABOUT ME

My journey began with an interest in physics at school. I enjoyed solving challenging tasks and competing with myself from yesterday, so I participated in physics and informatics olympiads. In the 11th grade I decided to take greater responsibility for my education and started studying online at CPM school in Moscow, which helped me to show my best at the olympiads and enter MIPT. In this university I had an opportunity to study programming in the group of Ilya Dedinsky. His course made me really interested in system programming and helped me to get some important skills. I really appreciate programming for the ability to know a lot about computer's work and to use this knowledge, to solve sometimes rather difficult problems in different and creative ways, and for the plenty of possibilities to realize myself. So, I really wish to continue my journey in IT.

EDUCATION

Moscow Institute of Physics and Technology

Bachelor of applied mathematics and physics, MIPT DREC

Dolgoprudny, Russia

Sept. 2022 - Aug. 2026 (present)

PROJECTS

My Language and Binary translator

- This project was implemented to study how programming languages and compilers work. And the best way to do it is to make personal language and compiler.
- Compiler for my language translates the code, written in my language, into my assembler for the virtual CPU, then generates byte-code, which can be executed by this virtual CPU.
- Binary translator in JIT implementation works with byte-code for virtual CPU, translates it to x86-64 commands and executes them on a real machine.

Hash tables research

- In this project I studied the potential for optimization of searching in the table and improving its performance

Mandelbrot set visualisation and alpha blending

- The goal of this project was to explore how SIMD instructions can improve the program's performance and speed up Mandelbrot set rendering and alpha blending.

Printf

- My realization of printf function in x86-64 assembly

TECHNICAL SKILLS

Languages : C, x86-64 Assembly

Tools : VS Code, Makefile, git, valgrind, Latex

OTHER SKILLS

- English (B2)
- Desire to learn something new and willingness to work hard
- Communication skills - I can be a good interlocutor
- Can change the scope of activities and deep into an unexplored material