# Vladimir Vekhov

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# EDUCATION

# Moscow Institute of Physics and Technology (MIPT)

Moscow, Russia

Bachelor's Degree in Applied Mathematics and Physics

2023 - 2027

GPA: 7.4 / 10

## **Core Courses:**

Mathematical Analysis, Linear Algebra, Computer Science, Physics

# EXPERIENCE

#### ISP RAS

Intern. Compiler technology department. Wrote sigbox algorithm of auto signature generation

July – August 2024

Learned internet protocols.

#### Tarantool VK

Intern. Write pagination support for rtree index in kernel.

November 2024 - May 2025

#### Bureau 1440

Jnior. Write and test agent of the suptnik management.

July 2025 - Now

# PROJECTS

# My Football Programming Language | C, Recursive Descent Parser, CPU Simulator

- Created a programming language using recursive descent parsing.
- Built a compiler supporting tokenization, abstract syntax tree creation, and assembly.

# Game Shooter $\mid C++, SFML, Sockets, threads$

• Top-down shooter - simple video game with client-server api and game engine on SFML.

# Differentiator | C, Binary Tree, Graphviz

- Developed a tool for differentiating and simplifying mathematical expressions.
- Implemented a graphical tree representation using Graphviz.

## Intersection of triangles $\mid C++, BVH \ tree, Cmake, CI$

- This program detects intersections between triangles in 3D space.
- Implemented a BVH tree for optimisation.

#### My Processor, RVI32 Processor | C, C++, ISA

- Created a processor and assembler supporting stack, RAM, and registers.
- 2 types: stack-based CPU with my own instructions and RVI32 simulator CPU

# Data Compression $\mid C, LZW$

Implemented LZW algorithm for lossless compression and decompression with dictionary support.

## Client-server application | Python, Wireshark

• Simple client-server application with tcp and udp transport protocols.

## ABOUT ME

- Know C, C++, python, Internet protocols, Linux, Risc-V, OOP
- Interested in system programming, backend development, and cybersecurity. Aspiring to learn ML.
- Passed C, C++, RISC-V and Compiler courses.
- Programming Mentor of the I. Dedinsky C course.
- Participated in Physics Olympiads, became a prize-winner in Rosatom, Kurchatov, Spb olympiad events. Love science.
- Strong teamwork and brainstorming skills developed through group projects.
- $\bullet\,$  Hobbies: football, running, reading, guitar.