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Russian Native

English B1/B2

#### About me:

I have been coding since the end of August 2023 and I am going to continue confidently. I also like to do sports (volleyball, wrestling) and travel.

## Hard Skills

C, C++, x86-64 Assembly, Git, Docker, Make, CMake, IDA.

## Soft Skills

Responsibility, stress resistance, leadership skills, critical thinking, communication skills.

## Interests

C, C++, Compilers, LLVM.

# Yaroslav Kuznetsov

DREC MIPT student / C/C++ developer

## Experience

### Ivannikov Institute for System Programming of the Russian Academy of Sciences

July 2024 - Jan 2025

Compiler Technologies Department. Crusher

Developing and adding instrumentation to the compiler using the LLVM infrastructure.

## Education

### Moscow Institute of Physics and Technology

Sep 2023 - July 2027

Department of Radio Engineering and Cybernetics

Second year student majoring in "Applied Mathematics and Physics".

GPA (General): 8.16 / 10.00.

GPA (Programming): 9.50 / 10.00.

### Basic course of programming in C++

since Sep 2024

Yadro and Konstantin Vladimirov's educational course

### Memory Management and Concurrency

Sep 2024 - Dec 2024

Huawei and Mikhail Molotkov's educational course

Introduction to the basics of memory management (garbage collectors, allocators), multithreading and concurrency (thread-safe, lock-free algorithms and data structures, thread pools, event loops).

### System programming and compiler technology course

Sep 2023 - May 2024

Huawei, ISP RAS and Ilya Dedinsky's educational course

Introduction to computer system emulation, compiler technologies, and industrial programming.

## Projects

### ParaCL

Jan - Feb 2025

🔗 <https://github.com/ask0later/ParaCL>

This project is an implementation of the ParaCL-interpreter using the lexical and syntax analyzer generators flex and bison.

### Bitonic Sort

Feb - Mar 2025

🔗 <https://github.com/ogkisque/Bitonic-Sort>

This project is an implementation of bitonic sorting on GPU using OpenCL library.

It is also a library, which is a C++ API wrapper for OpenCL.

# Projects

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## Triangles OpenGL

Feb - Mar 2025

 <https://github.com/ask0later/Triangles-OpenGL.git>

This project is a triangles scene visualization using the OpenGL library. It is a continuation of the project of determining intersecting triangles from the total number. The project itself is also a C++ API wrapper for OpenGL.

## Graph

Mar 2025

 <https://github.com/ask0later/Graph>

The project is an implementation of a graph in Donald Knuth's representation. Breadth-first and depth-first passes implement a bipartite check.

## Matrix

Dec 2024

 <https://github.com/ogkisque/Matrix>

This project is an implementation of a library of generalized matrices without using standard containers. The basis of the work is the idioms of RAI and copy-and-swap for correctness and exception safety.

## Lock-free stack

Nov 2024

 <https://github.com/ask0later/MMAAndConcurrecnyWorkspace>

This project is an implementation of a stack container that guarantees progress in at least one thread. It uses the concept of hazard pointers.

## Compiler

Apr - May 2024

 <https://github.com/ask0later/compiler>

This project is an implementation of a compiler from my own programming language into an x86-64 architecture executable file.

Also we can generate a listing of Nasm commands and their opcodes.