



kolya.kasparov@gmail.com



+7 (965) 342 - 14 - 11



Moscow



[nniikon](#)

Russian Native
English B2-C1

Skills

Languages:

Experienced:

C, C++, SystemVerilog,
CUDA

Familiar with:

x86-64, RISC-V asm,
Python

Tools

perf, git, make, cmake,
LaTeX, bash, Doxygen,
Graphviz, GitLab+GitHub
CI/CD, Docker, Vivado,
Verilator

Area of interest

Modern CPU and GPU microarchitecture,
compilers,
performance optimizations

Kasparov Nikolay

Second year MIPT student

Projects

Mandelbrot Set

March 2024

Mandelbrot fractal renderer with various optimizations

Toolset: C/C++, OpenMP, Cuda, perf, gdb, python, make

- [Article on Habr](#) (in Russian) 🔗
- SIMD optimizations
- Multi-threading
- Thread pool library 🔗
- OpenMP
- Cuda

Cman language

June 2024

Compiler to x86_64

Toolset: C/C++, x86_64 assembly, Graphviz, Make

- Hand-written recursive descent parser
- Intermediate representations (e.g., AST, IR) for scalability and code optimization
- Both assembly code and binary executables are being generated
- Powerful logging and dumping systems to simplify debugging
- Developed (but not yet deployed) Yacc-like parser generator

Real Gas Simulation

June 2024

Highly optimized gas simulation for a physics project

Toolset: C++, perf, make

- GLM for computations
- OpenGL for rendering
- Spatial partitioning optimization
- Tons of various optimizations resulting in ~20x performance boost

KolyaGPTv2

In Development

Header-only C++ library mimicking PyTorch

Toolset: C++, GTest, Docker + DockerHub, GitHub CI, CUDA

- Modular architecture
- Uses best practices in unit testing with Google Test and CI/CD
- GPU acceleration using CUDA

Work Experience

Baikal Electronics (AI team)

2024 July - August

Intern developer

Developing high-performance libraries in C/C++ for AI accelerators.

Education

Moscow Institute of Physics and Technology (MIPT)

2023 - 2027

Dolgoprudny, Russia

Second-year student at the Department of Radio Engineering and Computer Science.

GPA: 8.1/10.0

System programming and compiler technology course (MIPT)

2023 - 2024

Dolgoprudny, Russia

Graduated with a GPA of 10/10.

Achievements

Winner of the Phystech Olympiad in Physics.

February 2023

Scored 41/50

Winner of the MSU Olympiad in Physics.

March 2023

Scored 85/100

Second Place Winner – Sber Verilog Hackathon.

November 2024

Depeloped an FPGA video game using SystemVerilog, synthesized with Vivado, and verified with Verilator. Github: 