YAROSLAV TIKHONOV

MIPT bachelor second-year student
Computer Science & Engineering

PROJECTS

→ **RVsim** [github] **Mar 2025 - now**

Tools: C++, RISCV Assembly, cmake, gtest, github CI

RISC-V functional simulator for RV32i I am actively working at. Implemented nearly full instruction set support. Current focus is supporting ELF execution and optimizing performance.

→ **paraCL** [github] **Mar 2025 - now**

Tools: C++, flex, bison, cmake

C-like language compiler currently featuring frontend generated with flex and bison.

→ **Baker** [github] **Oct 2024**

Tools: C, Linux

Small Linux backup utility written in C. Tracks files and creates new backups whenever they are modified.

→ **Programming Language** [github] **May 2024**

Tools: C, Assembly x86_64

My programming language. Consists of several programmes which perform source code tokenization, syntax analysis and translation to NASM.

→ **Hash Table** [github] **Apr 2024**

Tools: C, Assembly x86, perf, radare2

Hash table using linked-lists to handle collisions. In this work I analysed multiple hash-functions and chose the optimal one. Also profile-guided assembly optimizations were made which gave 3x performance boost for search queries.

EXPERIENCE

→ **Internship at Russian Research Institute** **Jul-Dec 2024**

Worked full-time in Jul-Aug, once a week in Sep-Dec.
- implemented a dumping module for a code analyzing utility in Rust
- analyzed impact of optimizations on applications performance
- investigated a new tool before it could be integrated into the project
- learned about LLVM, ARM architecture, had my first experience with Rust

EDUCATION

→ **Moscow Institute of Physics and Technology, Russia** **Sep 2023 - now**

Department of Radio Engineering and Computer Technology

GPA (general): 8.1/10
GPA (informatics): 8.7/10

- Systems Programming course by Ilya Dedinsky (2023 - 2024)
- C++ course by Konstantin Vladimirov (2024 - now)
- RISC-V and test generators by RISC-V laboratories (2025 - now)
- Infrastructure engineering by RISC-V laboratories (2025 - now)

CONTACTS

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SKILLS

PRORAMMING
C/C++, x86, RISCV, ARM assembly, Python, Rust (beginner)

TOOLS
Git, flex, bison, cmake, perf, valgrind, SFML, GNU binutils, github CI/CD, docker, bash, radare2

SPHERE OF INTEREST

- Operating systems
- Functional simulators
- compilers & compiler optimizations
- low-level programming

PERSONALITY

- Hard-working
- Fast-learning
- Sociable
- Team-work
- Adaptable
- Creative

OTHER

LANGUAGES
English (advanced), Russian

HOBBIES
Volleyball, chess, video editing, skateboarding