Aliya Minimullina

MIPT 2nd year student

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Learning Experience

C/asm language course 2022 - 2023
K.Vladimirov

Uses and Applications of C++ 2023 - Present
K.Vladimirov
- *Middle exam grade: 9/10*

RISC-V and Test generators 2024 - Present

RISC-V toolchain 2024 - Present

Projects C++

ParaCl language interpreter
https://github.com/Aliyaminim/ParaCL
- collaborated in a team
- implemented Flex and Bison in Frontend

Red Black Tree
https://github.com/Aliyaminim/Red-Black-Tree
- developed a type of augmented binary search tree class with custom lookup member functions of O(log n) complexity
- implemented unit and end-to-end tests to validate the functionality

Triangle3D
https://github.com/Aliyaminim/Triangles
- leveraged linear algebra algorithms to optimize the efficiency of the intersecting triangle calculation process
- ensured accurate comparisons of floating-point values by implementing tolerance thresholds

Matrix
https://github.com/Aliyaminim/Matrix
- ensured exception safety
- utilized a two-level container to store and manipulate matrix data efficiently
- implemented Bareiss and Gauss algrorithms to calculate determinant

RRIP caching algorithm
https://github.com/Aliyaminim/RRIP-cpp
- studied an article on the RRIP caching algorithm to understand its principles and implementation details
- developed an ideal replacement policy for comparing the performance
- utilized recency-friendly and thrashing access pattern tests

RV32I model (until now)
https://github.com/Aliyaminim/RV32I_model
- implementing the RV32I ISA
- designing and coding the functionalities of the RV32I processor

Projects C

Karatsuba fast multiplication algorithm
https://github.com/Aliyaminim/karatsuba-multiplication

Greedy algorithm for job assignment
https://github.com/Aliyaminim/job_assignment

Profile

Github
github.com/Aliyaminim

Education

Radio Engineering and Computer Science
MIPT
2022 - 2026
GPA: 8.52/10
GPA(CS): 9.33/10

Strengths

diligent, inquisitive, responsible, self-motivated, good communicator,
striving for improvement

Technical Skills

Programming languages:
C, C++

Other:
CMake, make, git, valgrind, gdb, bash, LaTeX

Languages

Russian Native
English B2+

Academic achievements

- participant in the final stage of the All-Russian Olympiad in Physics (9-10 grade)
- 4-time winner of the regional stage of the All-Russian Olympiad in Physics (7-10 grade)
- 2-degree diploma of Moscow Olympiad in Physics(11 grade)