

CONTACT

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🌐 RustamSubkhankulov

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📍 Moscow, Russia

SKILLS

Specialization:

Software Development, System Programming, Operating System Development

Expertise:

- Operating Systems Architecture, Real-Time Operating Systems
- Object-oriented Programming, Design Patterns, SOLID
- Embedded Programming
- Multi-thread Programming
- Algorithms and Data Structures
- Compiler Design, Compiler Optimizations
- Basics of Computer Networks
- Mathematical Analysis

Languages:

C, C++, Assembly, Python, Verilog

Software:

Make, CMake, Git, GDB, QEMU, Unix, GNU Flex and Bison

Foreign languages:

English (Upper Intermediate B2+)

SUBKHANKULOV RUSTAM

MIPT - Applied Mathematics & Physics

EDUCATION

Bachelor of Applied Mathematics & Physics - 4th year
MIPT, DREC - Moscow, Russia

2021 - 2025

GPA: **4.87/5.00.**

WORK EXPERIENCE

Junior software engineer

2025 - Present

Lomonosov Research Institute - Moscow, Russia

Middle laboratory assistant

2023 - 2025

ISP RAS - Moscow, Russia

Laboratory assistant at ISP RAS, Software Engineering Department. Real-Time Operating System development.

Internship at ISP RAS

2022

Tools: C, Make, syzkaller, svace

Supervisor: Alexey Khoroshilov
(khoroshilov@ispras.ru)

Understanding the basics of the Linux kernel structure, interacting with the international community of kernel developers, preparing and submitting patches.

COURSES

Course "Designing the operating system kernel"

2022 - 2023

GitHub

Tools: C, Make

Supervisors: Alexey Khoroshilov(khoroshilov@ispras.ru) Vitaly Cheptsov(cheptsov@ispras.ru)

Educational operating system's core development. Based on the MIT's operating system graduate class.

STM32F051 microcontroller programming course

2023

GitHub

Tools: C, Make, ARMv6 Assembly

Supervisors: Vladislav Aleinik(valeinik@ispras.ru)

Basics of the microcontrollers' design and main embedded software development principles.

"Introduction to FPGA and Verilog" course at MIPT DREC.

ASSIGNMENTS & PET-PROJECTS

JIT-compiler

2022

GitHub

Tools: C, Make

Supervisor: Ilya Dedinskiy (ded@ded32.ru)

JIT compiler that translates binary code intended for execution by a virtual processor into x86 architecture instructions.

Shift-reduce parser

2024

GitHub

Tools: C++, Cmake

Shift-reduce parser for simple 'arithmetical' grammar. Educational project at compilers course at MIPT DREC.

Lexer

2024

GitHub

Tools: C++, Cmake

Lexer for non-existent programming language, implemented with flex. Educational project at compilers course at MIPT DREC.

Red-Black Tree

2023

GitHub

Tools: C++, Cmake

Red-black tree implementation with graphical dump feature and optimized methods for range queries.

LFU caching algorithm implementation

2023

GitHub

Tools: C++, Cmake

LFU cache implementation with its comparison to 'perfect caching algorithm'.

Hash table

2022

GitHub

Tools: C, Make, KCachegrind, Python

Supervisor: Ilya Dedinskiy (ded@ded32.ru)

Hash table implementation with optimizations.

Mandelbrot set calculation optimizations

2022

GitHub

Tools: C, Make, SIMD

Supervisor: Ilya Dedinskiy (ded@ded32.ru)

Mandelbrot set calculation and visualization with AVX optimizations.

Alpha-blending

2022

GitHub

Tools: C, Make, SIMD

Supervisor: Ilya Dedinskiy (ded@ded32.ru)

Alpha-blending algorithm implementation with AVX optimizations.

Ray-tracing

2022

GitHub

Tools: C++, Make

Supervisor: Ilya Dedinskiy (ded@ded32.ru)

C++ implementation of ray-tracing.

"Harry Potter" language compiler

2021

GitHub

Tools: C, Make

Supervisor: Ilya Dedinskiy (ded@ded32.ru)

Compiler for self-designed programming language. Syntactic and lexical analysis, AST intermediate representation

INTERESTS

Operating systems, processor architecture, computer systems architecture, compilers

PERSONAL QUALITIES & SOFT SKILLS

Fast learning, clear communication, growth mindset and collaborative spirit

ACHIEVEMENTS

Competition of scientific works of the 67th All-Russian scientific conference of MIPT
Prize-winner.

2025

All-Russian Olympiad for schoolchildren in geography
Prize-winner.

2021