

# PAVEL SHUMILO

## Software Developer and Researcher

@ shumilo.pd@phystech.edu    +79673513157    Dolgoprudny, Russia  
pavel05sh    vk.com/pavel05sh

Pave2005



## EXPERIENCE

### Engineer Assistant

#### Huawei

June 2025 – Ongoing    Moscow, Russia

- Responsible for optimization, research, and development of various features for the Huawei operating system kernel

### Software Engineer

#### Institute for System Programming RAS

June 2024 – October. 2024    Moscow, Russia

- Implemented detectors for the static analyzer Svace (SharpChecker)
- Developed a tool for error detection in code using LLM, based on summaries generated by LLM from summaries created during analysis with Svace

## EDUCATION

### Department of Radio Engineering and Cybernetics

#### Moscow Institute of Physics and Technology (MIPT)

Sept. 2023 – Ongoing    Dolgoprudny, Russia

- Major in Mathematics and Computer Science
- GPA (General) 8.28/10    GPA (IT) 8/10    GPA (Math) 8.13/10

### System Programming and Compiler Technologies Course

#### MIPT, Huawei, ISP RAS

Sept. 2023 – June 2024    Dolgoprudny, Russia

### Introduction to Industrial Programming in C++ Course

#### MIPT, YADRO

Sept. 2024 – Ongoing    Dolgoprudny, Russia

### Computer Architecture Course

#### MIPT, Sber

Jan. 2025 – Ongoing    Dolgoprudny, Russia

## TECH SKILLS

- Algorithms and Data Structures
- Math/Linear Algebra
- Probability and Discrete analysis
- Processor Architecture
- Optimizations
- Multithreading
- Physics and Theoretical mechanics

## SOFTWARE SKILLS

- C/C++
- Assembly
- Python
- C#
- Google Test
- Google Benchmark
- Linux
- LLVM
- Linux Kernel
- Git
- OpenCL
- SFML
- SDL
- CMake/Make
- Perf
- IDA
- Bash
- DOT
- Doxygen
- Graphviz

## PROJECTS

### Hash Table

- A hash table optimized using inline assembly, C intrinsic functions, and external assembly. Applied loop unrolling to boost performance and reduce execution time.
- C, Assembly, Perf

### AVL Tree

- Implementation of a balanced AVL search tree with a function to calculate the distance between any two nodes. This implementation outperforms the standard std::set data structure in terms of performance.
- C++, CMake, Google Test

### Binary Translator

- Translates binary code for a **the processor emulator** into Intel x86-compatible instructions. The conversion result is stored in a designated location within the main memory. Includes a -S flag to output x86-64 assembly. Uses double-precision arithmetic and AVX-256 instructions.
- C, Assembly, Linux

## SOFT SKILLS

- Sociable
- Purposeful
- Hard-working

## LANGUAGES

- Russian (native)    ● ● ● ● ● ●
- English (B2)    ● ● ● ● ● ●