



# DOLGOV ALEXANDER

2st year student, 19 years old

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Dolgoprudny, Russia

KetchuppOfficial

## STRENGTHS

Responsible Pedantic  
Stress-resistant Inquisitive  
Communication skills  
Quick learner

## SKILLS

Programming languages:

C C++ x86-64 assembly

Tools:

make CMake git  
valgrind gdb graphviz  
kcache/grind

Other skills:

Bash LaTeX Markdown

## LANGUAGES

Lang 1: Russian (native)

Lang 2: English (B2/C1)

## EDUCATION

Moscow Institute of Physics and Technology | DREC

2021 – 2025 Dolgoprudny, Russia

GPA: 8.26/10

## WORK EXPERIENCE

Summer internship

August 2022 ISP RAS, Software engineering department, Vitly Cheptsov team

- Port of an algorithm of fast conversion from floating-point numbers to strings to the standard C library of RTOS

## BEST PROJECTS

### C and assembly

Processor |

- Assembler/Disassembler: support proprietary instruction set
- Virtual processor: executes programs written on proprietary assembly

ParaPF: para print function |

- Small assembly implementation of standard C function printf
- Supports %b format specifier for binary output

Hash table |

- Quality of 7 hash functions was examined
- Hash table search was boosted by x86-64 assembly and SIMD

Binary translator |

- Translates binary code generated by the proprietary assembler (a part of "Processor" project) into x86-64 machine code
- Machine code is executed just after translation without making ELF

### C++

Triangles |

- Program that intersects triangles in 3D
- Octree is used for spacial partitioning

Matrix |

- Implementation of class representing matrix
- Two determinant computing algorithms are implemented