

# RUSLAN AKHMETOV

📅 4th Jan 2002

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## OPEN-SOURCE PROJECTS

### Completed Algorithms Course on C++

github: <https://github.com/DenRen/BabichevAlgo>

- External sort, dynamic programming, b-trees, graphs, number theory, geometry.
- Solutions and Conditions to problems from the course, as well as many tests for them.

### Completed Computer Vision Course

github: [https://github.com/DenRen/ML\\_HW/tree/main/SDA\\_CV](https://github.com/DenRen/ML_HW/tree/main/SDA_CV)

- Bird, rare sings classification; Sneakers generation; Face points detection

### Completed Multithreading and Lockfree Courses on C++

github: <https://github.com/DenRen/NormalProgramming>

- Split Ordered List, TAS, TTAS, TicketLock, Efficient Multithreading matrix multiplication

### Completed File Systems Course

github: <https://github.com/DenRen/filesystems-101-exercises>

- ext2-fuse, ext2 and ntfs image reader - dirs, files and walk path, ext2 sparse files, io\_uring, ps, Isofs, fuse, btree, grpc

### Binary Translator

github: [https://github.com/DenRen/BamblBi\\_Translator](https://github.com/DenRen/BamblBi_Translator)

- Project (5K lines) translate the text format assembler to binary format in a wide range of x86 architecture instructions

### Bitonic Sort on GPU

github: [https://github.com/DenRen/HW\\_Vladimirov/tree/main/hidra](https://github.com/DenRen/HW_Vladimirov/tree/main/hidra)

- A vectorized and super multi-threaded number sorter based on the bitonic sorting algorithm. Outperforms (-O3) CPU by 7 times

### Archiver on GPU

github: <https://github.com/DenRen/ArchiverGPU>

- Archives very quickly on the GPU

### Succinct on-disk algorithm (Graduate work)

github: <https://github.com/DenRen/life-on-disk>

- Two data structures are explored, implemented and compared: String B-Tree and String B-Tree + Geometric Burrows-Wheeler Transform. The results were obtained that the compressed structure takes up 4 times less space on the disk compared to a regular one, but works twice as long.

### Printf on clear ASM

github: [https://github.com/DenRen/ASM-UO-printf\\_](https://github.com/DenRen/ASM-UO-printf_)

- Pure assembler printf that recognizes insertion of string %s, binary format %b, octal: %o and hex %x

### Robo arm on STM32

github: <https://github.com/DenRen/MicroFlex>

- Stepper motor drivers and robot arm control code

### Simple Graphic lib on DX11

github: <https://github.com/DenRen/DirectGraphic>

- A simple 2D graphic lib on 3D direct library

### LuQulc

github: <https://github.com/DenRen/LuQulc>

- A quantum programming language that immediately executes

## PROFESSIONAL SKILLS

C++17

C

ASM

Git

Bash

PyTorch

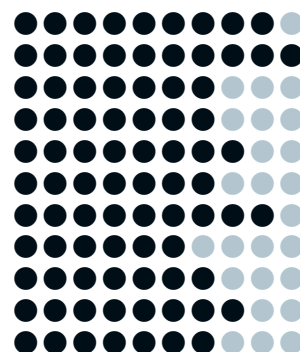
Algorithms

LockFree Algo

Multithreading

Linux

OpenCL



## GOALS

My goal is to improve people's quality of life by making professional IT contributions to the software that surrounds them. I want to join a strong team that works with full dedication and makes a useful product to contribute and grow surrounded by IT gurus.

## STRENGTHS

- Development

C++17

Python3

C17

OpenCL

ASM

Bash

Java

- Libraries and Frameworks

STL

googletest

OpenCL-CLHPP

PyTorch

PyTorch-Lightning

DirectX11

MPI

LL (for STM32)

- Development Tools - IDE

VS Code

Neo Vim

CLion

Qt Creator

Visual Studio

## WORK EXPERIENCE

Farvater, Middle C++ developer

📅 June 2022 - Feb 2024 📍 Moscow

High-effective low-latency real-time system digital energy substation

Huawei, Junior C++ developer

📅 June 2021 - Sep 2021 📍 Moscow

Binary translator team

## EDUCATION

MIPT

Sep 2019 - June 2023 - Bachelor

Sep 2023 - Master

## LANGUAGES

Russian

English B2

