RUSLAN AKHMETOV

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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
- 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, lsof, fuse, btree, grpc

Binary Translator
github: 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
- 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_
- 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
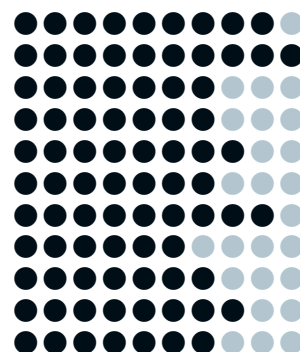
C++17
C
ASM
Git
Bash
PyTorch
Algorithms
LockFree Algo
Multithreading
Linux
OpenCL

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 - Dec 2023 📍 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