# Mokrov Kirill

## Personal Information

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## Education

**Moscow State University**
Faculty of Computational Mathematics and Cybernetics
Department of Supercomputers and Quantum Informatics
o Bachelor's degree, 2016 – 2020, GPA 4.75 / 5.0
o Master's degree, 2020 – until now

## Technical skills

General   Data structures, Algorithms, Object-oriented programming,
Basic knowledge of the Linux/Unix operating system

Languages   C++, Python

Libraries   +: MPI, OpenMP, Numpy
+-: CUDA, PAPI, POSIX Threads, FFTW

Technologies   Git, Redis, RabbitMQ

## Strengths

Hard-working, Communication, English (Intermediate)
Time Management, Critical Thinking

## Computer practicum projects

o **Finite fields and BCH codes** - Basic operations for working with polynomials in $F_2^q$. Systematic coding procedure for cyclic code defined by its generating polynomial. Procedure of decoding the BCH code using the PGZ method and method based on the extended Euclid algorithm.
o **Realization of quantum gates and algorithms** - n-Hadamard, Phase-shift, NOT, CNOT, CPhase-shift gates, Quantum Fourier transform.
o **Syntax analyzer** - Implemented by recursive descendant method. Defining types of all subexpressions. Detects lexical, syntactic and semantic errors.
o **E-store** - Storing information in Redis data structures. Messages are forwarded via RabbitMQ. The buyer can view the goods, add to the cart, see the statistics, in the end get the shopping done.
o **Numerical solution of the equations of change in the magnetic field** - Using an explicit schema in calculations. Calculating a multidimensional Fourier transform using the FFTW library. Implementation of div, rot, and derivate calculations.
o **Parallel implementation of operations with grid data on an unstructured grid** - Mastering basic data structures to represent an unstructured grid, a graph of connections of calculated cells, a portrait of a sparse matrix, multithreaded and multiprocessor parallelization of the simplest operations.

## Interests and researches

### Graduate qualification work

Development of the method for weak scalability predicting of supercomputer applications

### Scientific interests

Parallel and High Performance Computing, Quantum computing, GPU computing