Puchkov Kyryll

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EDUCATION:

2015 — 2017	The Richelieu Lyceum	Advanced mathematics and physics
2017 — 2021	Moscow Institute of Physics and Technology (GPA: 4.87/5)	Applied mathematics and physics
2019 — 2021	Department of applied and theoretical informatics (Acronis company)	Applied and theoretical informatics

CAREER OBJECTIVE: To get a position where I will be able to obtain and utilize my experience, develop my technical and social skills.

QUALIFICATIONS SUMMARY:

- Have programming experience on C/C++, Golang, basic skills with Python, MySql;
- Have experience of writing of research works on physics, mathematics, IT;
- Have good analytical/problem-solving skills, self-initiative and fast to learn new skills/technologies;
- Able to communicate in Russian (native), English (upper-intermediate) and German (pre-intermediate);
- Have 5 years' experience in organizational activities: Olympiad Fiztech, Winter Olympiad School actions, Start v nauku, MIPT Open doors day;
- Have 4 years' experience as text editor and designer in Vkontakte groups: Profkom MIPT, DCAM MIPT, Phystech Tour, MIPT Sport Club;
- Well-organized, self confidence, able to keep deadlines successfully, possess proactive approach, quality-oriented and enjoy learning new things.

PROJECTS:

2018 | **Command-line interpreter (Microshell)**

- Microshell provides most of commands, contained in bash
- Syntax is the same as in other implementations of UNIX shell, with regular expressions, pipes, input-output redirection and standard notation available
- Microshell interacts with operating system by a set of UNIX system calls and supports signals and multiprocessing.
- Backend is written fully in C++

2019 | **Website for programming contests (Judex)**

- Judex is a system for automatic testing for student contests
- Backend is written fully in Golang, using the standard libraries and MongoDB Server. Frontend is using JavaScript to interact with users
- Project is using multithreading with goroutines for faster results.

2020 | **Telegram bot for the campus domestic issues (Domestic bot)**

- This bot should simplify the applications' filling process for the domestic issues in the MIPT campus
- Backend is written fully in Python, using the Google Tables. Frontend is using JavaScript to interact with users.

2020 | **Multithreaded list**

- Stack is implemented with two-way adding methods $push\_front()$ and $push\_back()$ and front deleting $pop\_front()$. Due to the $Iterator$ definition we could make range based loop for our list or output it with output function. To check ABA problem was implemented swap methods with sleep and yield realisations $swapSleep$ and $swapYield$ respectively. Deleting is implemented with $Hazardpointers$
- Project is fully written in C++

2020 | **B-tree**

- B-tree realisation. This tree is a self-balancing tree data structure that maintains sorted data and allows searches, sequential access, insertions, and deletions in $O(\log(n))$
- Backend is written fully in C++

2020 | **Heat equation**

- During the course of Distributed systems had been made several tasks: integration using trapezoidal rule (on OpenMPI and OpenMP), solution of the heat equation (on OpenMPI and OpenMP) and bignum arithmetic (on OpenMPI)
- Project is written on C and C++

2021 | **Model of a distributed system**

- Realisation of an infrastructure that allows to create models of distributed processes
- Requirements:
  1. Modeling of distributed processes that exchange messages
  2. Simulation of synchronous and asynchronous operation mode
  3. Simulation of message loss
- Backend is written fully in Golang

2021 | **Garbage collector in search engines, based on bitmap-indexes**

- Thesis at the Department of applied and theoretical informatics, MIPT
- Realisation of the effective garbage collection algorithm, made tests and comparison with other algorithms
- Backend is written fully in Golang