Personal data

Name: **Alexander (Aleksandr) Krikun**

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Summary of qualification

I have started programming in C++ in the 2017. In 2017 – 2018 I have been writing simple control systems for Arduino-based robots, but now I prefer Linux development. I have no experience of commercial software development so I think of myself as **Junior developer**.

Technical skills

- Git, GitHub, GitLab
- Linux, Bash, Make
- MySQL, Memcached
- C/C++, Rust
- C++ STL, OpenCV (C++), POSIX

Education

- 2018 – 2022 / Currently enrolled in the "Computer science and engineering" BS program / TUSUR (Tomsk State University of Control Systems and Radioelectronics) / Tomsk, Russian Federation

About me

- I am keen on competitive programming,
- I had been participating in international stage of RoboCup robotics championship twice (RoboCup Asia-Pacific 2017, 2018),
- I have no pernicious habits,
- I can learn quickly and ready to do it,
- My native language is Russian, but also I can speak English (B2).

Courses

Name of the course	Certificate
Data Structures	stepik.org/cert/200414 (100%)

Experience

"FastCGI Redirector"	github.com/cobsea/fcgi-redir
Origin	Take-home assignment for an IT company
Term	August 2019
Team	1 software engineer
Task	Create a multithreaded backend application (http server), which redirects user from one URL to another. Redirection depends on the key in user's URL query. The key-URL pairs are stored in MySQL and have to be cached to Memcached. The server have to communicate with Nginx using FastCGI protocol and have to be written in C.
Technologies	C, Make, Linux, Nginx, MySQL, Memcached, POSIX
Impact	I created the required application. I reduced redirection latency by using MySQL asynchronous interface comparing to the usual blocking interface.
Result	Take-home assignment was accepted but I didn't land my job in the company because I couldn't combine my University schedule with full-time job

"N-body problem"	github.com/cobsea/n-body-problem
Origin	Summer practice in TUSUR University
Term	June 2019
Team	1 software engineer
Task	Create a GUI desktop application which simulates gravitational interaction between given bodies in two dimensional space and displays them
Technologies	C++, Make, Linux
Impact	I completed the given task. I developed library of classes which represents body interactions in two dimensional space and doesn't have any dependencies.
Result	Summer practice was rated with 5 (highest grade).

Rescue robot control system

Origin	RoboCup robotics championship, Junior Rescue Maze league
Term	February 2019 – April 2019
Team	1 software engineer, 1 electrical engineer
Role	Software engineer
Task	Create a robot which finds it's way in a maze according to league rules
Technologies	C++, Make, OpenCV, Linux, Raspberry Pi
Impact	I developed the control system. Also I implemented environment analysis system based on lasers. This approach let us to use only one camera as sensor subsystem (instead of many sonars).
Result	The robot was passing the maze

Soccer robot control system

Origin	RoboCup robotics championship, Junior Soccer Open league
Term	May 2017 – December 2018
Team	1 software engineer, 1 electrical engineer
Role	Software engineer
Task	Create a team of 2 robots with wheels which play soccer according to league rules
Technologies	C++, Arduino
Impact	I developed: • behavioral scenarios for robots, • control system architecture, • interfaces and libraries which let me quickly rewrite scenarios during competition days
Result	The cooperation of Japanese, Iranian and our (Russian) team earned the SuperTeam Champion award in RoboCup Asia-Pacific 2017 in Thailand. Our team took 8th place in RoboCup Asia-Pacific 2018 in Iran.