

# Renat Khatymov

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St Petersburg  
Saint Petersburg

## Summary

Skilled software developer with experience in embedded systems and application development.

## Experience

### Software Developer

JSC NIIAS • St Petersburg

01/2019 - Present

#### 1. Development of a positioning system for locomotives

Stack: C ++ 14, Python, SQLite, Qt, ZCM, MATLAB, CMake, QMake

- Development of Bayesian filters, including linear/extended/unscented Kalman filter.
- Collecting and analyzing data to estimate the effectiveness of filters.
- Development of service to fuse data from a navigation receiver, inertial module and data from a map (map matching).

#### 2. Development of drivers for inertial modules and navigation receivers.

Stack: C++11, C++14, bash, Linux, armv7, armv5, buildroot, gdb, CMake, Multithreading, gcc-4.7, g++-4.7, GTest, docker, RS-232, RS-485, UART.

- Build for armv 5/7.
- Remote debugging.

#### 3. Service refactoring to identify obstacles on the railway track by fusing objects from different sensors.

Stack: C++17, Python, g++-10, CMake, GTest, bash, Multithreading, nlohmann-json, libeigen.

- Transition from C++11 to C++17 with a change in the architecture of the service and a complete refactoring of the code.
- Optimization of the code.
- Development of a service for visualizing objects.
- Coverage of code with unit tests.
- Code profiling.

## Skills

- |                       |                |
|-----------------------|----------------|
| • C++                 | • STL          |
| • Git                 | • Agile        |
| • Linux               | • SQLite       |
| • Python              | • Unit Testing |
| • MATLAB              | • cmake        |
| • OpenGL (base level) |                |

## Education

### bachelor: Software Engineering

Peter The Great St.Petersburg Polytechnic University • St Petersburg  
08/2020

- GPA - 4.71

### bachelor: Economics and Organization of Enterprise

Saint Petersburg Mining University • St Petersburg  
06/2018

- GPA - 4.42

## Languages

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- English - B1
  - Russian - Native