

DUNAITSEV ALEXANDER

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EDUCATION

Bauman Moscow State Technical University

09.2019 – 06.2023

Bachelor "Computer-aided design systems" - CGPA - 4.65

Moscow, Russia

ADDITIONAL EDUCATION

Course "Preparatory program C/C++" Technopark BMSTU

02.2020 – 06.2020

Course "Linux system administration" Technopark BMSTU

02.2020 – 06.2020

Course "Algorithms and data structures" VK Education

09.2021 – 12.2021

Course "System architect" VK Education

02.2022 – 06.2023

PROFESSIONAL EXPERIENCE

Sber Robotics Laboratory | Intern software developer

05.2022 - ...

- Developed firmwares for ESP32 series SoC microcontrollers using the ESP-IDF framework.
- Designed and implemented firmware for ESP32 microcontroller for convenient Wi-Fi module usage. Firmware support the ability to send JSON-formatted commands to the controller through the UART interface.
- Researched the problem of unstable Wi-Fi connection in a highly noisy environment and proposed a set of solutions regarding both hardware and software.
- Implemented a wireless mesh network using ESP32 controllers and tested it, as a possible solution for unstable Wi-Fi connection issue.
- Was engaged in refactoring of the code base for the shuttle system. Developed a more flexible software architecture, which made it possible to simplify the process of maintaining, updating and refining the code.

PROJECTS

AES algorithm implementation 🔗 | C++, GitHub Actions, GTest, CMake

01.2021

- Created C++ library that implements AES (according to FIPS 197, AES is based on the Rijndael symmetric cipher algorithm).
- <https://github.com/dunaitseva/AES>

Web-application "Hospital" 🔗 | Python, Flask, HTML, CSS, Bootstrap, MySQL

09.2021

- As a part of the course work designed web application. Created REST API for hospital management system, using the MVC design pattern.
- https://github.com/dunaitseva/course_project_infosys_bmstu

Plate thermal conductivity solver 🔗 | C++, CMake, gnuplot, ANSYS

05.2022

- Created library that provides finite difference method for solving non-stationary heat equation for metal plates with arbitrary geometry and boundary conditions.
- Developed classes for rendering animation of plate heating.
- <https://github.com/dunaitseva/finite-diff-method>

SKILLS

Programming languages: C++, C, Python, Bash, SQL, L^AT_EX

Technologies/Frameworks: STL, Boost, GTest, CMake, Linux, Flask, Git, GitHub Actions, HTML, CSS, Bootstrap

ADDITION

- Test writing experience.
- CI usage experience.
- Used dynamic (valgrind, sanitizers) and static (cpplint, cppcheck, flinfer, clang-tidy, etc.) code analysis tools.
- Math experience: linear algebra, statistics, optimization methods. Researched and implemented numerical methods algorithms.
- General engineering skills. CAD/CAM systems experience (Siemens NX, Autodesk Inventor).