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 "Prepatory 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 noised 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.

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, LaTeX
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, fbinfer, 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).