Bogdan Grigoruță

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EDUCATION

- **University Politehnica of Bucharest** Bucharest, RO
  Bachelor of Science in Sytems Engineering *Sep. 2017 – Jun. 2021*

- **Gheorghe Lazar National College** Bucharest, RO
  Mathematics - Informatics Specialization *Sep. 2013 – Jun. 2017*

EXPERIENCE

- **ROSEdu Summer of Code** Bucharest, RO
  Software Developer *Jun 2020 - Oct 2020*
  - **Tock OS**: Tock is an open source embedded operating system designed for running multiple concurrent, mutually distrustful applications on Cortex-M and RISC-V based embedded platforms. Tock's design centers around protection, both from potentially malicious applications and from device drivers.
  - **Contributions**: Wrote peripheral drivers in Rust for the flash memory, watchdog and random number generator found on STM32F3 and STM32F4 discovery boards. (https://github.com/tock/tock/commits?author=krady21)

PROJECTS

- **Bosch Future Mobility Challenge 2021**: Technical team competition focused on developing autonomous driving solutions on 1/10 scale vehicles. On the software side, I worked on integrating the lane detector and lane keeping controller, as well as on defining the overall software architecture. On the hardware side, I integrated our Inertial Measurement Unit (BNO055) i2c driver with the mbed OS i2c API supported by our microcontroller. Currently, I am working on a Kalman filter for localization and state estimation.
- **Open Source Contributor**: Exposed angular velocity, acceleration and magnetic field readings in the C++ MAVSDK telemetry API (https://github.com/mavlink/MAVSDK/pull/779).
- **Advent of Code**: Advent calendar of programming puzzles of various difficuties. I participated in the 2020 edition and solved 24 out of the 25 daily challenges in Rust.
- **NBA Statistics App**: Wrote a Django web app in Python for my university databases course that displays statistics about NBA teams, players and games.
- **HTTP Web Server**: Wrote a mini web server for my operating systems course using epoll and socket asynchronous operations (send() and recv()) in C.
- **C Preprocessor Clone**: Wrote a C preprocessor clone that implements a subset of its directives (#define, #ifdef, #include, #if, #else, #endif).
- **Mini ALU**: Designed a small ALU (Arithmetic Logic Unit) as a state machine in Verilog for my Computer Architecture course.
- **PID controller design**: Designed and tuned PI/PID controllers for a dynamic process in Matlab and Simulink as a project for my Control Theory course.

SKILLS

- **Programming Languages**: C, Rust, Python, C++, Bash, Matlab, Verilog
- **Other**: Git, Linux, Docker, SQLite
- **Spoken Languages**: Romanian: Native, English: C1, German: B1