Drew Council

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EDUCATION

Bachelor of Computer Science, Electrical & Computer Engineering, Duke University Graduating 2024
Completed classes in Data Structures/Algorithms, Computer Architecture, and Product Management. GPA: 3.7

SKILLS

Python, C, Linux, ROS, Docker, Git, Bash, Arduino, Verilog, Raspberry Pi, EAGLE, KiCad, AWS, C++, Java

WORK EXPERIENCE

Software Engineer Jan 2022 - Present
BotBuilt Robotics *Durham, NC*

- Worked with other engineers to develop software for robotic construction of houses in a full-time capacity.
- Introduced unit testing to software stack with coverage reporting to a multi-repository ROS2 workspace.
- Designed embedded hardware to communicate to a ROS2 network and provide services for physical control.
- Spearheaded a CI for testing and development including automatic pull request Docker container testing.
- Containerized ROS2 applications into standardized Docker images for several platforms and architectures.
- Integrated AWS container hosting for automated Docker image builds with error reporting.
- Worked on an agile startup software team with a high degree of personal project control and responsibility.

Teaching Assistant Aug 2021 - Dec 2021
Duke First Year Engineering Design *Durham, NC*

- Assisted small groups of students in project management throughout a semester-long design challenge.
- Provided technical expertise in actuators, programming embedded systems, sensors, and PCB design.

LEADERSHIP EXPERIENCE

Software Subteam Lead Jun 2020 - Jun 2022
Duke University Robotics Club *Durham, NC*

- Competed in annual RoboSub robot competition, where students design fully autonomous submarine robots to complete a variety of tasks underwater.
- Coordinated a 25+ member agile environment team using ROS, Docker, and Git to manage a shared codebase.
- Implemented PID, Sensor Fusion, Computer Vision, and SMACH to improve robot accuracy and capability.
- Earned 1st in Propulsion System, 3rd in Sensor optimization in 2021; 1st in technical report in 2021 and 2022.

PROJECTS

Aelevate Bike Trainer, Duke Product Design Sep 2022 - Dec 2022

- Designed a bike trainer that allows users to simulate riding on a variety of terrains with varied resistance.
- Used PlatformIO to write C++ Arduino software to read sensors and control motors.
- Created serial interface to communicate with a custom desktop application for user control.

Typeracer-style Arcade Game, Duke Computer Engineering Sep 2022 - Dec 2022

- Implemented a head-to-head typing arcade game including display and keyboard drivers on an FPGA.
- Used Verilog to implement a MIPS-like pipelined processor to process input and generate graphics.

Room Availability Detection System, Duke Engineering Sep 2020 - May 2021

- Used a Raspberry Pi and Python software to collect PIR sensor data and detect a person's presence.
- Communicated this sensor data over a custom web API to publish the availability of a Duke Music piano practice room to allow for any student to check remotely as requested by client.