Noah Charlton

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Education

The Ohio State University - B.S. Computer Science and Engineering   May 2025
GPA: 4.00 / 4.0

Work Experience

Software Engineering Intern - Battelle Memorial Institute   Jan. 2023 - Present
- Automated a complex test procedure using C++ and hardware-in-the-loop simulation to verify an electronics system's firmware.
- Received an Outstanding Performance Award for accelerating testing.
- Prototyped a GUI tool for configuring a distributed embedded system using C, React, and SFTP.
- Led the re-architecture of a JSON-based WebSocket interface through multiple design reviews.
- Updated an Android app that used Android's MediaCodec library to stream RTSP H264 videos over UDP.
- Developed a desktop GUI application to control a motor through a serial interface using Protobuffers.
- Created a website using React Redux to plot and visualize data stored in a Redis database.

Undergraduate Teaching Assistant - The Ohio State University   Aug. 2022 - Dec. 2022
- Educated students in Fundamentals of Mathematics for Engineers.
- Reviewed student lab reports to help develop their technical writing skills.

Student Research Assistant - The Ohio State University   Apr. 2022 - Dec. 2022
- Modeled 7 consecutive months of missing environmental sensor data using machine learning.
- Automated time shift calculations for different sensors using MATLAB and linear regression.
- Presented research at the 2022 Summer Undergraduate Research Forum.

Student Data Center Technician - Ohio Supercomputer Center   Jan. - Apr. 2022
- Repaired and troubleshooted server hardware from Intel, Dell, and Nvidia.
- Utilized Linux command line to remotely diagnose compute nodes.

Extracurricular Involvement

Underwater Robotics Team - Electrical Team Member   Aug. 2022 - Present
- Developed firmware in C for custom PCBs built with RP2040 microprocessors.
- Migrated communication protocol from MicroROS to Google Protobuffers to minimize latency.
- Co-authored an asynchronous driver that controlled a Dynamixel Servo over serial TTL.
- Earned "Distinguished New Member" award for taking initiative on firmware development.

FIRST Robotics Alumni at Ohio State - President   Sept. 2021 - Present
- Directed the creation of a new subteam to participate in the NASA Lunabotics competition.
- Organized and presented a 3 hour workshop for high schoolers about programming and wiring.
- Mentored Columbus School For Girls' students on Java programming and robotics engineering.
- Secured a $4000 grant for training college students to mentor K-12 robotics teams.

Hack OHI/O - Grand Prize Winner   Nov. 2021
- Awarded 1st Place in Ohio State's annual 24 hour coding competition.
- Collaborated with a 4 person team to develop a mouse controlled by hand movements using Python, a top-down webcam, and machine learning.
- Won Microsoft Sponsor Award and Audience Choice Award.

Technical Skills

Relevant Coursework: Honors Fundamentals of Engineering, Databases, Data Structures, Calculus II, Statistics and Probability, Linear Algebra, and Differential Equations.
Programming Languages: Java, Javascript, Typescript, Python, C, C++, Rust, MATLAB.
Programming Tools: Docker, CMake, Git, GitHub, Gradle, GNU Tools, Cargo, IntelliJ, Eclipse.
Hardware and Software: STM32, Wiring, Soldering, Fusion 360, SolidWorks, Altium.