Noah Charlton

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Work Experience

Software Engineer - Battelle Memorial Institute May 2025 - Present

- Modernized a legacy software component to meet evolving client needs and enable new data collection capabilities. Designed and implemented an extensive unit test suite to ensure reliability and prevent regressions.

Software Engineering Intern - Battelle Memorial Institute Jan. 2023 - May 2025

- Awarded $35,000 R&D for proposal to simulate underwater camera footage. Reimplemented a research paper using OpenGL to increase algorithm performance by over 600%, allowing for real time simulation.
- Invented novel algorithm for optimizing the calculation of underwater light scattering (patent pending).
- Automated a complex test procedure using C++ and software-in-the-loop simulation to verify an electronics system's firmware. Received an Outstanding Performance Award for accelerating testing and debugging of project deliverables before a critical client demo.
- Created a highly configurable command line tool for extracting data and generating PDF reports from an embedded system using Python, ReportLab, and MongoDB aggregation queries.
- Rewrote C backend for Linux which controlled and collected data from embedded devices over TCP/IP. Implemented new features to increase configurability, stability, and record critical system data.
- Utilized GitHub Actions and Docker to automate the process for cross-compiling and generating software packages for an embedded Arm board to comply with the NIST SSDF standard.
- Maintained distributed simulator written in Rust, C++, and Typescript to mock hardware interfaces.
- Prototyped a GUI tool for configuring a distributed embedded Linux system using C, React, and SFTP.

Undergraduate Research Assistant - The Ohio State University Apr. - 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.

Education

The Ohio State University - M.S. Computer Science and Engineering Expected: May 2026
GPA: 4.00

The Ohio State University - B.S. Computer Science and Engineering May 2025
Summa Cum Laude
Awards:

- Student Impact Award (2025): Awarded to students who made a substantial impact as an intern.
- Hack OHI/O Grand Prize (2021): Member of 4 person team who won Ohio State's premier hackathon.

Extracurriculars:

- President of *Terrestrial Robotics at Ohio State*. Directed the creation of a new subteam to build a rover for the NASA Lunabotics competition and co-authored an award winning Systems Engineering paper.
- Led the architecture of the electrical and software subsystems for NASA Lunabotics rover. Reverse-engineered a vendor's proprietary CAN protocol for a brushless motor controller.
- Wrote firmware for the *Underwater Robotics Team*'s custom PCBs with RP2040 microcontrollers.

Volunteer Experience

Robotics Team Mentor - Columbus School for Girls' Sept. 2021 - Present

- Mentored Columbus School For Girls' students on robotics and engineering principles.
- Taught students about Java programming, object oriented design, and electronics.

Technical Skills

- Programming Languages: C, C++, Java, Javascript, Typescript, C#, Python, Rust, MATLAB.
- Programming Tools: Docker, Meson, CMake, Git, GitHub, Gradle, GNU Tools, Cargo, IntelliJ, Eclipse.
- Hardware and Software: RP2040, STM32, Wiring, Soldering, Fusion 360, SolidWorks, Altium.

Last Updated: 5/11/2025