Eli MacColl

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Education

Master of Science - **Northeastern University**, Boston, MA   September 2021 - Expected May 2023
Computer Engineering | Hardware and Software for Machine Intelligence | GPA 3.9

Coursework: Machine Learning/Pattern Recognition, Wireless Sensor Networks and IoT, Software Security

Bachelor of Science - Northeastern University, Boston, MA   September 2018 - May 2022
Computer Science and Computer Engineering | GPA 3.7

Coursework: Web Development, Software Development, Database Design, Networks, OOD, Algorithms,
                        Foundations of Cybersecurity, Computer Architecture, Computer Systems, Embedded Design

Skills

Languages/OS: JavaScript/TypesScript, Python, HTML/CSS, Java, C/C++, SQL, R, Linux

Technologies: React, Redis, Redux, Node.js, Express.js, MongoDB, Bootstrap

Experience

Hourly Course Assistant, Boston, MA
Fundamentals of Networks   January 2023 - Ongoing
Wireless Sensor Networks and the Internet of Things   September 2022 - December 2022
- Facilitated labs, graded assignments/projects, and ran office hours.

Research at Goodwill Computing Lab, Boston, MA   July 2021 - December 2021
Undergraduate Explorer
- Conducted data analysis of hardware failures of the world's most powerful supercomputer, Fugaku.
- Used Python for data manipulation and creating informative visualizations.

Projects

Orca - Computer Science Grading Job Server   July 2022 - Ongoing
- Grading job server for CS student submissions to work in tandem with Bottlenose Course Manager.
- Full stack development for web applications used to view and interact with the grading job queue.
    - Frontend written in TypeScript with Vite, React, and Bootstrap.
    - Backend written in TypeScript using Express.js and Redis.

Automated Terrarium   January 2022 - May 2022
- Designed and developed the software components of an automated terrarium for a group Capstone project.
- Control system in Arduino for regulating environmental conditions within the terrarium.
- User Interface with HTML/CSS/JavaScript for monitoring the terrarium conditions through Highcharts.js plots and configuring system parameters via HTTP communication between components.

Networked Trains Game   October 2021 - December 2021
- Designed and implemented a large scale, object-oriented game in Python (based on *Ticket to Ride*).
    - Software components for the game logic, server-client communication, and visuals.
- Pair programmed and was subject to frequent code walks/design reviews during the development process.

Mapping Coral Bleaching   June 2021
- Used SQL and Python to design and populate a database with worldwide coral bleaching data.
- The database was queried for analysis, and the findings were visualized on an interactive world map.