

Eli MacColl

Education

Master of Science - Northeastern University, Boston, MA September 2021 - May 2023
Computer Engineering | GPA 3.9 | Graduate Dean's Scholarship

Coursework: Database Management Systems, Software Security, Computer Vision, Machine Learning/Pattern Recognition

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, TypeScript, 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

Wireless Sensor Networks and the Internet of Things

- Facilitated labs, graded assignments/projects, and ran office hours.

Research at Goodwill Computing Lab, Boston, MA

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

- 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.
 - o Frontend written in TypeScript with Vite, React, and Bootstrap.
 - o Backend written in TypeScript using Express.js, and Redis.

Automated Terrarium

- 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

- Designed and implemented a large-scale, object-oriented game in Python (based on *Ticket to Ride*).
 - o Software components for the game logic, server-client communication, and visuals.

Mapping Coral Bleaching

- 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.

Activities & Hobbies

Wildlife Club, Institute of Electrical and Electronics Engineers, Chess, Guitar, Video games, Baseball