Molly McHenry

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EDUCATION

Brown University, *Sc.B. Applied Math-Computer Science* 4.0/4.0 GPA *Sept 2021 - May 2025*

Relevant Coursework**:** Real-time & Embedded Software, Software Engineering, Computer Systems, Data Structures & Algorithms, Deterministic Modeling, Numerical Optimization, Statistics, Machine Learning, Graphs & Networks

WORK EXPERIENCE

IRIS Inc., *Embedded Software Intern* Remote | Jan 2024 - Current

- Developing real-time sensing and actuating medical headband aimed at reversing Parkinson's symptoms, using Microchip ATSAMD21G18 microcontrollers and sensor arrays
- Design, test, and deploy microcontroller software applications, specializing in C++ programming, sensor communication protocols (I2C, SPI), Bluetooth communication, and iPhone and Android App development
- Working with the CTO to refine the state machine for the IRIS device

Brown University, *Software Engineering Research Assistant* Providence, RI | Sept-Dec 2023

- Collaborated with a professor to build an IoT app to streamline end-user control of devices
- Developed features for the backend rule-based engine for controlling smart devices
- Engaged in weekly progress meetings to synchronize backend and frontend development efforts, showcasing effective communication skills with frontend developers and the research professor

Brown University, *Teaching Assistant: Intro to Software Engineering* Providence, RI | Jan - Dec 2023

- Spearheaded project management for student teams, overseeing the development of full-stack web applications
- Conducted debugging and conceptual sessions and provided constructive code reviews for student projects
- Collaborated with Head TAs and the course instructor to develop course content

PROJECTS

Arduino Hero *(Embedded C, Arduino, CAD)*

- Collaborated with a team to build a rhythm game consisting of Arduino MKR1000 microcontrollers, 3D-printed guitar controllers, an LED matrix fretboard, and an LCD screen to provide real-time game information
- Created an exhaustive design and testing plan, constructed and soldered all hardware components
- Used UART communication between microcontrollers, serial communication for controller-to-software interaction, an ISR to process console sensor events, and a Watchdog Timer for beat latency errors

Trek Travel Planning Web App (*Java, React, Typescript, HTML, CSS)*

- Designed a social media web app facilitating university students' connection and sharing of travel plans
- Engineered an internal API server capable of handling account creation, user events, posts, and friending
- Created a recommendation algorithm for custom ordering of friend posts, dynamically prioritizing friend posts based on user engagement patterns

EXTRACURRICULARS

Student Pilot, *Private Pilot's License* June 2020 – Current

- Pilot Cessna 172 aircraft and independently study aviation mechanics, electrical systems, and flight physics

SKILLS & INTERESTS

Technical Skills: Embedded C/C++**,** Python, NumPy, Matlab, Java, MongoDB, APIs, Typescript, React, Node.js

Interests: sustainable aviation, ultimate frisbee, women's professional soccer, and NPR Tiny Desk Concerts