

Duncan McManus

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Education

Brown University

Providence, RI

B.S. COMPUTER SCIENCE

Expected May 2020

- Current GPA: 3.85
- Relevant Coursework: Software Engineering, Computer Systems, Computer Graphics, Artificial Intelligence, Design and Implementation of Programming Languages, Virtual Reality Software Review, Discrete Structures and Probability, Introduction to Object Oriented and Functional Programming, Linear Algebra, Multivariable Calculus
- Programming languages and frameworks: Java, C, JavaScript, Python, HTML/CSS, C++, Unity, React Native, Ruby on Rails

Experience

Amazon AWS

Seattle, WA

SOFTWARE DEVELOPMENT ENGINEERING INTERN

Summer 2019

- Designed and implemented a new data transfer feature that improves access management and reduces risk to critical resources
- Completed project with extra time to iterate based off feedback and assist customers with onboarding to my feature
- Worked full stack, adding to the Ruby on Rails UI and Ruby/Java backend components, tested with Capybara

GE Digital

Boston, MA

DIGITAL TECHNOLOGY INTERN

Summer 2018

- Automated the process of deploying Dockerized Edge applications to Predix Edge OS machines by producing an extension for VS Code using JavaScript and Bash scripts
- Developed a dynamic data visualization that retrieves live factory asset data using REST api calls. Written in JavaScript and HTML/CSS

Humans to Robots Laboratory

Brown University

RESEARCH ASSISTANT

Spring 2018

- Created a Virtual Reality display of a robot's current position and orientation that updates live using A-Frame and JavaScript

Brown University Department of Computer Science

Brown University

TEACHING ASSISTANT

Spring 2018

- TA for CS0180, Brown's intro Data Structures and Algorithms course, which teaches Object Oriented and Functional Programming
- Mentored students on project design and debugging, held office hours, graded assignments and exams, planned course content

Google igniteCS

Brown University

INSTRUCTOR

Fall 2017

- Volunteered to teach a weekly class for middle school girls introducing Computer Science concepts using Scratch

Projects

Squawk

Providence, RI

CO-FOUNDER, PROJECT LEADER

Spring 2019 - Present

- Led a four person team in creating a location based social networking mobile app with React Native, Postgres, Apache, AWS EC2
- I wrote the authentication flow, friend system, push notifications, app navigation, sign up UI, and invented app idea and core design
- Released private beta on Testflight, conducted user studies, iterated design

Rhode to Vote

Brown University

BACKEND JAVA DEVELOPER

Spring 2018

- Rhode to Vote is a ride-sharing platform designed to improve voting access in Rhode Island by connecting volunteers and voters
- I wrote three different modified Dijkstra and BFS graph traversal algorithms that find optimal routes, coded interfaces and classes for riders, drivers, and routes, and handled SQLite database interaction

AnyWays

Brown University

FULL STACK ENGINEER

Spring 2018

- A Google Maps clone made from scratch. It displays a street map that can be panned, zoomed, and clicked for route selection
- I wrote the Java backend which implements a K-D Tree for storing point coordinate data, A* for finding shortest paths, the Proxy Pattern for caching on database requests, and a Trie for autocorrecting street names
- Collaborated on the JavaScript/HTML/CSS front end which draws the map using tile-caching, enables navigation via mouse, and allows address search