Benjamin Carney

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Education

University of Michigan - Ann Arbor *GPA: 3.18/4.0*

B.S Computer Science, April 2020

Coursework: Data Structures and Algorithms, Information Retrieval, Web Systems, Software Engineering, Computer Organization, Programming Languages, Theory of Computation, Discrete Mathematics, Statistics, Spanish

Work Experience

AT&T | Software Engineer *July 2020 - Present*

- Contributed over 600+ lines of NodeJS code to a local development tool used by several developers for "Handlebars" template syntax validation and streamlined a loading process that would ordinarily take hours over the course of a single day, yielding hours of saved development/labor costs and efficiency. Introduced an additional 300+ lines of code in Mocha unit testing to ensure code quality.
- Spearheaded the creation of a new Java/Maven/Apache Camel microservice totaling over 2600+ lines of code that would be used for directing terabytes worth of data over the course of its lifetime to inform customer segment marketing for att.com. Incorporated an additional 1200+ lines of Mockito unit testing code, and performed stress-testing to ensure stability under various data loads.
- Proposed the practice of automated unit test generation using a tool called "EvoSuite" for a yearly innovation sprint and upon approval, was tasked with guiding its implementation among a team of 9 other engineers, resulting in high-coverage, low-overhead test suites that required significantly less time to produce when compared alongside their manually produced counterparts.
- Served as the local Community Engagement lead and helped organize several virtual volunteering/fundraising opportunities with organizations such as Feeding America and MakerGirl, achieving just over $500 allocated towards various causes over the course of my service.

The Home Depot | Software Engineer Intern *May 2019 - August 2019*

- Contributed 500+ lines of code to "Device Tracker", a React/Node.js application that would be used to locate 1000+ misplaced Android devices across hundreds of Home Depot retail locations, yielding hundreds of thousands of dollars in savings in labor and replacement costs.
- Initiated the development of "App360", a React/Node.js/MongoDB application that aimed to consolidate data on hundreds of Home Depot software applications, allowing directors, managers, and associates to communicate more effectively across teams and reduce redundancy in overlapping projects.

RollOut Deliveries | Software Engineer Intern *May 2018 - August 2018*

- Achieved MVP peer-to-peer food delivery iOS/Swift application in a team consisting of 3 engineers over the course of 12 weeks, utilizing GoogleMaps API as the primary engine behind core functionality.
- Engineered end-to-end user registration, authentication, and payment flows to establish secure and reliable storage of user's personal information, utilizing Google Firebase as primary data layer and Stripe API for secure transactions.

Projects

Accev *January 2020 - April 2020*

- Led a team of 3 engineers in the designing and implementation of a crowd-sourced Swift/Firebase iOS application that maps out various accessibility features at local businesses, landmarks, and other public areas for individuals with disabilities using Google Maps/Places API.
- Streamlined registration, login, and authentication system using secure native credential option and Google/Facebook APIs.

Gradual ALFA-ML *January 2020 - April 2020*

- Implemented a functional programming language from scratch using OCaml with sum, product, and recursive types, incorporating gradual typing and typed holes, parametric polymorphism, and mutation. Built various iterations of synthesizers and analyzers that were capable of evaluating multi-layered expressions.

Garduino *April 2018 - August 2018*

- Built an automated irrigation system that utilizes a resistive soil moisture sensor, a DC powered solenoid valve and an Arduino circuit board to control the flow of water through my personal tomato and pepper garden. Written in C++.

Leadership

Michigan Hackers - Project Manager, President, Senior Advisor *2019 - Present*

- Directed the largest computer science organization at the University of Michigan, representing over 1000 Slack members through a variety of technical and social events intended to teach skills not commonly taught in the classroom. Partnered with companies such as Google, Capital One, and Target for frequent tech talks that aimed to showcase trends in the industry.
- Introduced various strategies for increasing member engagement among a team of 4 other executive team members (in-person office hours, social events, technical challenges), resulting in a doubling in average weekly "Hack Night" turn out by the end of my term as president.

Skills

Programming

- **Proficient** - C++, Python, Swift, JavaScript, ReactJS, NodeJS, HTML/CSS, Bash, SQL, NoSQL, LaTeX , Git, OSX
- **Working knowledge** - OCaml, Java, C#, React Native, Arduino, Flask, Windows, Linux