Adam Alston

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Education

University of North Carolina at Chapel Hill August 2020
Bachelor of Science in Computer Science, GPA 3.58
- Study Abroad: Puerto Rico

Central Carolina Community College May 2017
Associate of Science, Associate of Arts, GPA 3.96
- Phi Theta Kappa Honor Society

Courses: Algorithms, Computer Architecture, Cybersecurity, Data Structures, Databases, Languages and Computation, Networking and Protocols, OOP, Software Architectures, Web Programming

Work Experience

UNC Department of Computer Science - Chapel Hill, NC
Research Assistant - Cybersecurity Jan 2020 - Present
- Looking into password security and the reliability of password reset periods
- Investigating intrusion detection using an anomaly-based ML system as well as honey potting
- Exploring HTTP 4.0 possibilities in relation to online privacy, cookie handling, and 'Do Not Track'

Research Assistant - Accessibility and Enabling Technologies (focus on brain injuries) Aug 2019 - Dec 2019
- Created web apps (WCAG, ARIA), tools, and games that enabled people with disabilities to do more
- Developed a Chrome extension to summarize web pages in one click
- Designed an algorithm to present players with best paths forward in simple games to help brain recovery
- Transformed web apps from click-based interfaces to keyboard-based interfaces for limited mobility

Self Employed - Remote
Software QA Engineer Sep 2015 - July 2019
- Conducted formal and informal product design reviews during the software development lifecycle
- Documented software defects (JIRA, Azure DevOps) involving program content, functionality, and output
- Architected a fix in many cases where bugs were not part of proprietary technologies

Projects (More on GitHub)

Spectre & Meltdown, Heartbleed, SQL Injection, SYN Flood, Sniffing/Spoofing (C, Python, PHP) June 2020
- Wrote programs that demonstrated cyberattacks and vulnerabilities in a Linux VM
- Patched vulnerabilities using ToC-ToU, safe functions, bounds checking, and other methods

COVID-19 Dashboard & Map (React) May 2020
- Built a COVID-19 dashboard and map to display global statistics (from JHU CSSE) on the pandemic

SMTP Client/Server (Python) Feb 2020
- Implemented SMTP using socket programming with optional MIME processing for encoded images

Summarizer (JavaScript, jQuery, HTML5, CSS) Dec 2019
- Created a full stack web application to summarize online articles and shrink their content by 75-99%
- Designed a frontend that was optimized for nighttime readability (dark mode) and historical context
- Consumed an ML API with native error handling and constructed an efficient backend using datastore

Sushi Restaurant Game (Java) May 2018
- Programmed a game that puts players in charge of their own sushi restaurant
- Designed synchronized UI elements that enticed player interaction using the MVC design pattern

Pokémon Go Map (Python) Aug 2016
- Collaborated on an app that allowed 10,000+ players to gain a live visualization of the game on a map
- Monitored Google Maps API integration and reported localization errors to the integration developer

Skills

Languages	C, C++, Clojure, CSS, HTML5, Java, JavaScript (ES6), Python, SQL, TypeScript
Technologies	Git, GitHub, jQuery, Linux, Node, React, TCP/IP, TestFlight

Leadership Experience

HackNC Organizational Committee Aug 2018 - Oct 2018
- Coordinated efforts between sponsors and the CS dept to produce UNC's 600-person annual hackathon

President, Math Club Jan 2017 - May 2017
- Launched the club's Future Initiative with the goal of getting more underrepresented groups into math