Mark **Freeman**

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Education

Stevens Institute of Technology — **Hoboken, NJ**
Bachelor of Engineering in Software Engineering — May 2020
Major GPA : 4.000 | Cumulative GPA : 3.852

Research Experience

Data Labeling for Analysis of Software Architecture — **Hoboken, NJ**
Under advisory of Prof. Lu Xiao — 03/19 - 06/19

- Assisted in early stages of research in building a dataset to classify software bugs using machine learning model
- Manually labeled dataset based on keywords and semantics of developer bug reports

Discovering Environmental Influence in Pedestrian Foot Traffic — **Hoboken, NJ**
Under advisory of Prof. Gregg Vesonder — 01/18 - 06/19

- Established a fleet of Raspberry Pi nodes across campus network to sample environmental data as well as relative amount of people nearby
- Relayed data back to central web server on campus to process information using machine learning models
- Provided web server, data collection, and machine imaging framework for future student researchers to build upon

Mobile Networking for Early-Stage Startup Ventures — **Hoboken, NJ**
Under advisory of Prof. George Abraham, CEO of Inkbench — 06/17 - 08/17

- Examined business need of startup teams on and around campus, targeting specifically Android mobile applications relying on network-accessed data
- Discovered that some pain points for early developers revolved around asynchronous / concurrent nature of web requests through customer interviews
- Developed a wrapper library to simplify the API exposed by the builtin Android networking framework

Work Experience

Amazon.com, Inc. — **Seattle, WA**
Software Development Engineering Intern — 06/19 - 08/19

- Implemented and deployed parallelized eventual consistency system to prevent data mismatch between systems affecting over 280,000 items on retail site, saving millions of dollars in future losses
- Collaborated with senior software engineers to design, revise, and present solutions to Scrum team for approval
- Communicated across teams to synchronize development efforts and ensure proper understanding of other systems

Prudential Financial, Inc. — **Newark, NJ**
Enterprise Architecture Intern — 06/18 - 12/18

- Developed API proxies in Apigee for enforcing policies on inbound and outbound traffic through various applications
- Ported certain proxies from Apigee to AWS to contrast development techniques and limitations of each environment
- Implemented information extraction from X.509 certificates for mutual authentication using Java and JavaScript

Willkie Farr & Gallagher LLP — **New York, NY**
Application Development Intern — 02/18 - 06/18

- Developed cross-platform expense reporting application using Kony Visualizer to automate 1,500 monthly expense reports
- Researched and implemented image segmentation for receipt image splitting using Python, Scikit-Learn, and Flask
- Communicated project progress and expectations with full stack development team and product owner using Agile methodologies

Vaco LLC — **Hoboken, NJ**
Google Cloud Student Innovator for Vaco at Google — 10/17 - 02/18

- Collaborated with Google to bring cloud technologies such as compute and serverless to campus
- Led multiple campus-wide events such as tech talks and live demos to collect information for improving Google products
- Held weekly office hours open to all students and faculty for personal, hands-on mentorship in cloud technology

Caring Friends (Startup) — **Hoboken, NJ**
Co-Founder & Android Developer — 10/16 - 10/17

- Communicated project goals, deadlines, and expectations with senior entrepreneurial lead and graphic designer
- Helped lead startup business efforts such as conducting 70+ customer research interviews in areas around Hoboken
- Architected, developed, and deployed Android application with AWS backend for use by employees

Awards

Grow with Google Scholar — **2017**
Scholarship received from Google to fund startup research efforts

Innovation and Entrepreneurship Scholar — **2017**
Application-based scholarship from Stevens to pursue advised entrepreneurial research in startup ventures during the summer

Stevens Presidential Scholarship — **2016 - 2020**
Merit-based scholarship

Dean's List — **2016 - 2020**

Teaching Assistantships

Applied Data Structures & Algorithms (CPE 593) — **F2019**
Prof. Kruger

- 3 hours of recitation per week, delivered in both Java and C++
- Considerably improved failure rate of course overall, receiving recognition from both Prof. Kruger and the Vice Provost for Academics

Agile Methods for Software Development (SSW 555) — **S2018, F2019**
Prof. Rowland

- 2 office hours per week to assist students in languages such as Java, Python, and C
- Created project frameworks in a variety of languages to ease transition of students into long term projects requiring architectural considerations, large-scale test harnesses, dependency management, etc.

Head TA, Introduction to Programming (E 115) — **F2018, F2019**
Prof. Iyengar

- 8 hours of recitation per week, with assignments and solutions delivered in C++
- Synchronized cross-section efforts with other teaching assistants

Outreach

Director, HealthTech Hackathon — **2018 - Present**

- Coordinated management efforts with healthcare industry experts to deliver a specialized hackathon experience revolving around improving digital health
- Managed relationships with sponsors, as well as over $30,000 in funding that they provided to the event
- Advised technical solutions from students throughout competition weekend

Director, Venture Hacks — **2017 - Present**

- Led a series of on-campus hackathons devoted to arming young entrepreneurs with information and connections to empower their ideas
- Developed technical and entrepreneurial workshops for students to apply principles presented at events

Member, Stevens Venture Center — **2016 - Present**

- Acted as an advisor and general point of information for students looking to get started with on-campus ventures

Machinist Assistant — **2016 - Present**

- Assisted in the fabrication / manufacturing of parts for other students' senior design projects

Selected Current and Future Coursework

Concurrent Programming (CS 511) **F2019**
The study of concurrency as it appears at all levels and in different types of computing systems

Parallel Programming / Many Core Processing (CS 677) **S2020**
Architecture and programming of multicore processors and graphical processing units and associated programming frameworks and languages

Programming Languages (CS 496) **S2020**
An introduction to programming language design and implementation, with an emphasis on the abstractions provided by programming languages

Systems Administration (CS 615) **S2020**
Essential aspects of systems administration, giving students the opportunity to develop the skills necessary to analyze and troubleshoot problems arising in everyday usage of networked computer systems

Course descriptions taken from the Stevens Academic Catalog. Grades not yet released.

Skills

Operating Systems
Linux (Ubuntu / Mint & CentOS) / UNIX, Windows 7 / 10

Software
Amazon Web Services, Node.js, React, Express, Git, Travis CI, VirtualBox, package managers, Jupyter Notebook

Concepts
Data structures, algorithms, TCP / IP, APIs, Big-O analysis, Agile development, CI / CD, unit & integration testing, process synchronization

Languages
Java, JavaScript (ES9), Python, C / C++, Rust, Erlang, Bash, HTML / CSS, LaTeX

Certifications
CompTIA A+, Udacity Android Basics in partnership with Google, currently pursuing AWS CSD & CSA

Other
Machining / fabrication