MELANIE WONG

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EDUCATION

University of California, Santa Cruz
- **B.S. in Computer Science**, June 2020. GPA: 3.8
- **M.S in Computer Science and Engineering**, expected June 2021.
- **Coursework**: Algorithms & Data Structures, Software Engineering, Computer Security, Distributed Systems, Machine Learning, Coding for Social Good
- **Graduate Coursework**: Network Security, Seminar on Networks

EXPERIENCE

Computation Intern – Lawrence Livermore National Laboratory   June – September 2019
- Developed and redesigned the in-house web application for tracking laser facility maintenance
- Built RESTful web services in Java, and used Axios service to issue HTTP requests
- Used React and Typescript to implement client-side data sorting and filtering
- Utilized Jenkins CI/CD and Atlassian Bamboo for automated builds and deployments

Undergraduate Researcher – Baskin School of Engineering, UC Santa Cruz   September 2019 – Present
- Implementing space-efficient filter cascade data structures in C++ to track TLS/SSL certificate revocations
- Using Python (numpy, matplotlib) to generate graphs for analyzing performance and memory efficiency
- Investigating performance & security benefits of implementation in revocation checks by browsers

Undergraduate Research Assistant – Tech4Good Lab, UC Santa Cruz   March 2019 – Present
- Building platforms focused on team collaboration using Angular, RxJS, Travis CI and Firebase
- Conducted usability studies for Causeway, a platform that allows users to learn web development and simultaneously develop components for nonprofit organizations

PROJECTS

Multi-threaded HTTP Server
- Developed a simple server in C/C++ to handle simultaneous HTTP requests
- Implemented request logging, including header information and data in hex

Daily Messages
- Daily SMS using the Twilio API to receive today's weather and temperature
- Automated using Microsoft Azure Functions with a TimerTrigger to run the Java code every morning

GIFinder
- Created a web application to search for GIFs using React and the Giphy API
- Implemented an animated list of trending GIFs, and a search bar to find other GIFs

Production Network Simulation
- Developed a multi-level production network using Mininet topology & Python
- Implemented firewalls and routing between subnets using switches and a POX controller

LiveColor
- Built an Android application that allows picking, editing, and saving colors from the camera or uploaded images
- Implemented feature of displaying HEX values and color names using an API, based on the location of tap on the image

JPMorgan Chase & Co. Code for Good (2nd Place)
- Created a mobile web application to track & analyze volunteer activities for the nonprofit, Green City Force
- Utilized React, Node JS, SQLite, and Bootstrap to incorporate user accounts and rewards systems

TECHNICAL SKILLS

- *Programming:* Java, C/C++, JavaScript, TypeScript, HTML/CSS, Sass, Python, Go (familiar)
- *Frameworks:* React, Angular, Express, Vue, Data Analysis Libraries (numpy, matplotlib)
- *Technologies:* Git, Node.js, Android Studio, Docker, Linux/Unix, Virtualbox, Amazon Web Services (AWS)
- *Security Tools:* Wireshark, Kali Linux, Nmap, SQLmap, OWASP ZAP, VMs
- *Languages:* English, Cantonese, and Mandarin

ACTIVITIES

2019 Goldman Sachs Engineering Essentials Fellow   May 2019
- Selected to attend a five-day program involving industry insights and full-stack development training
- Created a stock visualization application using React, Jersey RESTful web services, JSON, and Maven

Rewriting the Code Fellow   June 2019 – Present
- Selected for a year-long program offering career coaching, industry exploration, networking, and internship opportunities to college women in tech