Amy Mathews

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EDUCATION

University of California, Berkeley Berkeley, CA

Bachelor of Science in Electrical Engineering and Computer Sciences

Coursework:CS61B **(Data Structures)**, CS61C **(Machine Structures)**, CS186 **(Database Systems)**, CS170 **(Efficient Algorithms)**, CS161 **(Computer Security)**

SKILLS

Languages : Java, C++, Python, JavaScript (React.js), GoLang, HTML/CSS, SQL (MySQL), mongoDB ,Latex

Skills : Problem Solving, Creative thinking, Team player, Adaptive, Good communicator, Algorithmic Auditing, Web-scraping, Problem Analysis & Resolution

AWARDS:

SACNAS National Diversity in STEM (NDiSTEM) [Society for the Advancement of Chicanos/Hispanics and Native Americans]: Presented my research and had it reviewed by professionals across America. Won best poster in Other Computer and Information Sciences at the SACNAS 2021 conference. **Was recognized for research findings and presentation Skills among 870 total presenters.**

EXPERIENCE

Developer at TO3 (Tech of One's Own) Labs, Berkeley June. 2022 – Present

Researcher Berkeley, CA

Conducted research in Human Computer interaction with the goal of helping those who experienced online harm to make sense of what happened to them and introduce the concepts of restorative justice. In the process, developed a system to conduct research on over **80 participants.Utilized HTML/CSS, JavaScript, PHP and MySQL to complete the task. Implemented dynamic data gathering, cutting down data analysis time significantly.** Built a back-end database service in PHP and MySQL and implemented a front-end UI to support future changes

TTE REU Research Internship Program June 2021 – Aug 2021

Intern Berkeley, CA

Did research on the hyper personalizing effect of Instagram's algorithm. Employed algorithmic auditing and web-scraping to gather data. **Utilized Python, Optical Character Recognition Scanners and performed qualitative and quantitative data analysis**

Girls Who Code Sept 2019 – May 2020

President San Diego, CA

Conducted workshops among college students to spark interest in coding. Created a website with weekly worksheets and step-by-step videos to help students gain a better understanding of coding concepts. Moderated collaborative coding sessions. **Taught in Java and C++.**

DSC Google Sept 2019 – May 2020

Tech Lead San Diego, CA

Organized workshops for students to gain a deeper understanding of Google products and technologies.Achieved the **G Suite Essentials** and **Google Cloud platform badges** and guided students to complete them.

PROJECTS

CS61B Enigma

Replicated the WWII German encryption machine "Enigma" by building generalized simulator that handled different descriptions of possible configurations of the machine and messages to encode or decode. Utilized **Java's String, HashMap, ArrayList, and Scanner data structures to handle string manipulation, data mapping required, and file reading for encryption.**

CS61B Gitlet

Created a version-control system from scratch that mimics some of the basic features of the popular system Git. This was an independent project and I used **file persistence, cryptographic hashing, graph traversals, and a combination of data structures**. This project emphasized software engineering design principles such as efficiency, decomposition, and clean style.

CS161 End-to-End File Sharing System

Designed and implemented an end-to-end file-sharing system from scratch using the Go programming language. The project involved implementing various security measures, such as **input validation, access controls, and secure session management**. Implemented best practices in web development and security, including role-based access control, hashing and salting of sensitive data, and HTTPS encryption.