

Aaron Wu

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EDUCATION

University of California, Santa Cruz

Computer Science B.S.

Expected Grad June 2024

- Cumulative GPA: 3.9/4.0, Dean's Honors
- Activities: Chancellor's Undergraduate Internship Program, ACM Social Outreach Officer, Google Student Developer Club
- Relevant courses: Data Structures, Algorithms Analysis, Computer Architecture, Computer Systems, Computer Networking, Functional Programming, Natural Language Processing, Software Engineering, Distributed Systems, Artificial Intelligence, Social Computing Research

SKILLS

- **Languages:** Python, JavaScript, TypeScript, SQL, Java, C, C++, PHP, HTML/CSS
- **Frameworks / Libraries:** React, Angular, Next.js, Flask, RxJS, Redux, Jest, React Testing Library
- **Python Tools:** numpy, pandas, scikit-learn, NLTK
- **Databases:** PostgreSQL, Firestore, MySQL
- **Technologies:** Git, Github Actions, Docker, AWS, Firebase, Kubernetes, NGINX, Jira, Linux, Figma

WORK EXPERIENCE

jLab in Smart Sensing

Santa Cruz, CA

Full Stack Developer

Mar 2023 - Present

- Created a data visualization platform to monitor sensor data from microbial fuel cells deployed out on farmland for research
- Developed a realtime chart based dashboard using React and Chart.js, to compare and visualize data from different sensors
- Engineered an API with Flask, Marshmallow, and SQLAlchemy to handle streams of requests from a network of cells
- Implemented refresh token flow, following OAuth 2.0 framework, to authorize users and protect API resources
- Migrated Kubernetes cluster to new architecture with NGINX as a reverse proxy, for deployment to local server
- Refactored Github Actions CI/CD pipeline to test and deploy services on AWS, increasing deployment velocity and uptime

Tech4Good Lab

Santa Cruz, CA

Research Fellow / Software Engineer Lead

Sept 2023 - Present

- Led 20 member web dev team to develop platform that teaches how to conduct real world qualitative analysis collaboratively
- Built convergence page, facilitating aggregation of student's analysis into a single narrative, to provide insights for non-profits
- Developed layout discussion page, allowing for a better user experience for educators to support class-wide discussions
- Built web components to display AI hints during learning, aggregating other student's work to create relevant feedback
- Designed high fidelity designs of new AI theme hints features using Figma, to study how students can interact with platform
- Conducted qualitative protostudy on the user experience of AI theme hints, to determine usability and effectiveness of hints

Software Engineer

Sept 2022 - May 2023

- Constructed an admin dashboard utilizing Angular, RxJs, NgRx, and Firebase to help educators directly manage students
- Developed 20+ Angular components of 2 different Angular-Firebase web applications using HTML, SCSS, and TypeScript.
- Refactored noSQL database design by denormalizing documents in schema design, speeding up load time by 115%
- Onboarded 50+ people to the lab's Angular, Firebase, RxJs, NgRx stack and wrote training documentation for onboarding

Software Engineer Intern

Jun 2022 - Sept 2022

- Designed Angular components to help students select research groups for a platform that introduces faculty research to students
- Refactored old Angular components using SCSS to fit together in page layout for web and mobile platforms
- Created a custom dropdown component, utilizing native DOM and matching the project's designs

PROJECTS

PantryPal - Personal Project

- Constructed app using Streamlit and Flask that recommended recipes off of user's ingredients list, aimed to reduce food waste
- Engineered machine learning pipeline to recommend recipes, using tf-idf and cosine similarity to give users relevant recipes
- Aggregated, cleaned and prepped recipe data from Allrecipes and Jamie Oliver, with NLTK, for input to ML pipeline

Corporate Memphis Art Image Generator - Personal Project

- Built AI-powered SaaS tool with Next.js, NextAuth.js, tRPC, Prisma, Tailwind to generate corporate memphis-styled images
- Implemented Stripe and Supabase integrations with Prisma ORM, to create a credit-based pricing model
- Setup deployment with AWS, using D3 to store generated images and Amplify to host the SaaS tool