Aaron Wu

Oakland, CA | (510) 697-8047 | aaronwu234@gmail.com

aaronwu.dev | github.com/aaron-wu1 | linkedin.com/in/aaron-wu1

Education

University of California, San Diego	*Computer Science M.S.*	Incoming	Expected Grad June 2026
University of California, Santa Cruz	*Computer Science B.S.*	GPA: 3.9/4.0	Sept 2020 - June 2024

Experience

jLab in Smart Sensing - *Full Stack Developer | https://dirtviz.jlab.ucsc.edu/*   Mar 2023 - Present

- Created open source **data visualization** platform using React and Flask to monitor power data from microbial fuel cells, used in data analysis for 30+ researchers across multiple universities
- Built **RESTful API**, utilizing **Marshmallow** for request validation, to log voltage, water moisture, and temperature data from sensors located out on the farm
- Constructed chart dashboard, using **React**, to generate dynamic graphs for real-time monitoring of sensors
- Integrated **distributed task queue**, with **Redis** and **Celery**, to execute large data exports asynchronously
- Automated testing and deployment to **AWS** with **CI/CD** pipeline using Github Actions

Tech4Good Lab - *Undergraduate Research Fellow*   Sept 2023 - June 2024

- Developed an educational collaborative qualitative analysis web platform using **Angular** and **Firebase**, deployed to classes of 100+ students, scaling student's accessibility for peer feedback
- Built Angular components to display AI-generated hints using **Dawid-Skene expectation maximization algorithm**, increasing the quality of qualitative analysis conducted
- Implemented **realtime**, **collaborative** transcript annotation feature using **RxJS**, **NgRx** and Firebase, increasing student engagement
- Wrote training documentation for lab's tech stack, accelerating the onboarding process by 50%

Tech4Good Lab - *Software Engineer Intern*   Jun 2022 - May 2023

- Developed an admin dashboard using Angular and Firebase, allowing educators to directly manage students, reducing administrative tasks
- Utilized **python** to create migration scripts for Firestore, ensuring seamless data migration between research projects and minimizing data loss risks

Skills

- Languages: Python, JavaScript, TypeScript, C, Java, SQL, HTML/CSS
- Frameworks / Libraries: React, Angular, Flask, RxJS, Redux, Jest
- Python Tools: numpy, pandas, scikit-learn, NLTK
- Databases: PostgreSQL, Firestore, Redis
- Technologies: AWS, Docker, Firebase, Kubernetes, Linux, Git, Github Actions, Jira, Figma

Projects

PantryPal | *https://github.com/orgs/PantryPal-1/repositories*

- Developed app using Streamlit and Flask to recommend recipes based on user's ingredients list, aiming to reduce food waste
- Engineered **machine learning pipeline** using **NLTK**, **tf-idf** and **cosine similarity** to generate recipe suggestions