

Education

California State University, Fullerton

Bachelor of Science in Computer Science, Minor in Mathematics

August 2020 - May 2023

Experience

Software Development Engineer Intern

Amazon, Personalization

May 2022 - August 2022

- Develop internal tooling with **Python** that enables the Customer Interests team to efficiently convert thousands of binary data points from multiple labeling jobs into high confidence datasets to train and benchmark the performance of their machine learning models and recommendation algorithms, serving more relevant product recommendations to Amazon shoppers
- Create an **AWS CDK** application in **TypeScript** to programmatically provision and configure resources, including **AWS Lambda** functions, **DynamoDB** databases, and **IAM** users to distribute read and write permissions
- Design and implement a **DynamoDB** database to store and query labeled datasets
- Implement unit and integration tests with 100% branch and statement coverage where applicable

Frontend Developer

TuffyHacks 2022

September 2021 - February 2022

- Built mobile responsive frontend using **React (Next.js)**, primarily the landing page, promoting the event to thousands of students globally, and the dashboard, facilitating team creation and displaying live event announcements
- Design scalable and fault tolerant backend using **AWS Lambda** functions and a **PostgreSQL** database, minimizing cloud hosting fees while handling peak traffic from hundreds of users with 100% uptime and minimal latency during the event

Mobile and Backend Developer

Twiiine

June 2020 - September 2020

- Built the MVP of a date and hangout planning mobile app using **Flutter**. Most notably, developed the planning and user profile view, with support for live updates when requests are accepted and profiles are updated
- Develop login and signup flow with **OpenID** and **OAuth** support for Google, Facebook, and Email authentication
- Design and implement the API endpoints allowing users to schedule hangouts and send invitations to other users

Projects

Spotify Seasonal Playlist Creator

JavaScript, Python, Flask, Spotify REST API, Next.js

- Develop a service that places liked songs into playlists grouped by seasons. Currently serving a user base of 20+ individuals
- Implement a multi-container architecture, utilizing **Docker Compose** to provision and configure infrastructure, including a **Flask** backend, **Next.js** frontend, and **SQLite** database with admin panel, behind a reverse proxy
- Develop and design the landing page, OAuth login flow, and user dashboard in **Next.js** and **TailwindCSS**
- Integrate with a **SQLite** database for error logging and playlist caching, minimizing API calls and monitoring error rates

Gameboy Emulator

Rust, SDL2, Z80 Assembly

- Develop a Gameboy emulator using **Rust**, implementing core functionalities and accurate emulation of the Gameboy hardware.
- Implemented key components of the Gameboy architecture, including CPU, memory management unit (MMU), graphics processing unit (GPU), and audio processing unit (APU), to provide a comprehensive emulation experience.

PositivityPost | Treehacks 2023, CSUF ECS Competition

Typescript, Svelte, TailwindCSS

- Aggregates news from multiple sources to provide a more balanced and less biased view of the news
- Design user-friendly frontend allowing users to quickly filter and tailor their news feed based on topics and sentiments

Spam Email Detection

Python, Scikit-Learn, Natural Language Toolkit

- Design and implement a machine learning based spam email classifier using Python and scikit-learn
- Train model on a dataset of labeled emails, achieving a precision of 98% and a recall of 97% with the Naive Bayes Classifier

Skills

Languages: JavaScript/TypeScript, HTML/CSS, Python, C++, Rust, Go, Java, L^AT_EX, Dart, SQL, R, MATLAB

Web: React, Next.js, Svelte, Figma, TailwindCSS, SCSS, 11ty, Express.js, Flask, FastAPI, Node.js, PostgreSQL, SQLite, MySQL

Data Analysis/Machine Learning: Jupyter Notebook, Scikit-Learn, Numpy, Pandas, Pytorch, Keras

DevOps: Amazon Web Services (API Gateway, CDK, CloudFormation, DynamoDB, Lambda, S3), Firebase, Docker, NGINX