

# WILLIAM DAI

Alameda, California, USA

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## EDUCATION

### University of California, Santa Cruz

August 2020 – June 2022

Computer Science B.S.

Santa Cruz, CA

- **GPA:** 3.75 / 4.00
- **Laney College** (Oakland, CA): August 2018 - May 2020
- **Ohlone College** (Fremont, CA): August 2018 - December 2019

## RELEVANT COURSEWORK

- Data Structures & Algorithms
- Algorithm Analysis
- Computational Models
- Principle of Operation Systems
- Computer Architecture
- Web Applications
- Applied Machine Learning
- Natural Language Processing
- Database System Principles

## TECHNICAL SKILLS

**Languages:** C++, C, JavaScript, HTML5, CSS, SQL, Python, Bash

**Technologies:** React.js, React Native, Node.js, Express.js, PostgreSQL, Google Firebase, Docker, Unix, Git

## EXPERIENCE

### University of California, Santa Cruz

March 2021 – June 2021

Computer Science Group Tutor

Santa Cruz, CA

- Planned, organized, and led additional study sessions and lectures outside of class seminars.
- Worked with students to complete coding assignments.
- Covered fundamental C topics such as data structures, recursion, algorithms, hashing, and multi-threading.
- Assisted the lead professor with grading exams, assignments, and lab reports.

### Network Jupiter, LLC

June 2017 – May 2019

IT Technician

Alameda, CA

- Managed and troubleshooted issues with company hardware and software.
- Kept company systems up-to-date and managed backup operations.
- Provided support for technical issues and answered company technology-related inquiries.

## PROJECTS

### Music Discovery Mobile Application | Spotify GO | JavaScript, React Native, Google Firebase

- **Description:** A music discovery mobile application built for Android, written in JavaScript. Curates music for a user based on what nearby users around them are listening to on Spotify. Pulls information using real-time tracking, geolocation, and Spotify's servers and displays user information on the app's map view.
- Led a 6-person team using Scrum methodology with four 2 week sprints, developing and maintaining code throughout.
- Developed a dynamic user interface for the application's frontend to streamline the user experience using React Native components and React Native Maps API to display map data. Co-developed the database interface that connects the local client to the Google Firebase cloud database.
- Used the Spotify API to extract user information from Spotify and local Android device data to extract location data for scanning local users, storing user data onto the Google Firebase cloud database.

### Messaging Web Application | Slack-like Clone | JavaScript, React.js, Express.js, PostgreSQL, Docker, MUI

- **Description:** A communications web application that mimics the Slack software, using React.js and written in JavaScript. Features much of the same functionality, including login and authentication, users, servers, channels, and messaging.
- Developed the backend database using PostgreSQL to retain user information for usage within the application, processing user interaction within the application and updating their respective data accordingly.
- Developed the frontend user interface to follow the same format as Slack using MUI, alongside developing the database interface to communicate to the database using Express.js.

### Data Compression Program | Lempel-Ziv Compression | C

- **Description:** A data compression program written in C with a command line interface on Unix Bash that utilizes the LZ78 algorithm to compress inputted files with strings and then decompress them.
- Used bit manipulation with a buffer to read and write the compression and used a trie to optimize the efficiency of the program.