Allan Chen

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EDUCATION

University of California, Berkeley — Expected Graduation: May 2025

GPA: 3.6 | Bachelor of Arts in Computer Science — *Berkeley, CA*

Relevant Coursework: Structure and Interpretation of Computer Programs, Data Structures and Algorithms, Foundations of Data Science, Principles and Techniques of Data Science, Linear Algebra and Differential Equations, Discrete Mathematics and Probability Theory, Calculus 2, Multivariable Calculus

Activities: Theta Tau Professional Engineering Fraternity, Codeology (Tech Consulting), SBC Strategy Consulting

EXPERIENCE

Hewlett Packard Enterprise — **San Jose, CA**

Software Engineer Intern — *May 2023 – August 2023*

- Designed and packaged **Python** automation to create a database of component-level vulnerability scan results
- Deployed full stack application with **ReactJS** front-end and **Flask** back-end; utilized Grommet library for user interface and developed application API to retrieve and display aggregated data
- Engineered Python scripts to search database of **8,000+** tuples, decreasing component search times by **107%** and aiding in faster queries for problematic licenses/critical vulnerabilities present in HPE's open source projects

Theta Tau Professional Engineering Fraternity — **Berkeley, CA**

Technology Chair/Webmaster — *May 2022 – January 2023*

- Automated voting feature for active members; streamlined and decreased vote ranking generation time by **30%**
- Maintained website with **Ruby**, designing a class sorting system for members and alumni
- Initialized database using **PostgreSQL** to manage member, chair, and alumni positions and general information

PROJECTS

Build Your Own World | *Java, JUnit* — *Spring 2023*

- Created keyboard interactive game by programming **randomized world generation** algorithm for any seed value
- Features: line of sight toggle, on-hover tile display text, saved avatar naming, reload/save options
- Technology: heaps/priority queues, data structures, classes, Java libraries (STDdraw, JUnit, Princeton Libraries)

LED Game Board | *HTML, CSS, JavaScript* — *Spring 2022*

- Constructed a multi-function game board that allows players to play games against other players or against AI
- Developed project website, implementing image carousels and hover animations in JavaScript
- Utilized minimax algorithm with alpha-beta pruning for AI implementation in Snake and Battleship

MP3 Audio Classifier | *Python* — *Spring 2022*

- Built an mp3 audio classifier to differentiate between sad and happy songs using Tensorflow and Sci-Kit Learn
- Engaged in **exploratory data analysis** to plot wave forms of 11 different musical genres using Librosa
- Trained with different **machine learning models** (K-Nearest Neighbors, Support Vector Machines) to generate Classification and Confusion Matrices with a genre classification **accuracy of over 90%**

NGordnet (NGrams and Wordnet) | *Java, JUnit* — *Spring 2023*

- Designed backend APIs of a web tool mimicking the functions of the *Google NGram Viewer* and the *Princeton Wordnet*, graphing the historical frequency of an input word and listing its hyponyms
- Parsed dataset containing over **40,000+** words and **20,000+** synsets; used TreeMaps, HashMaps, and DFS to track and search for hypoynms with varying word frequencies, single/multi-word inputs, and optional year constraints

Ants vs. SomeBees | *Python* — *Fall 2022*

- Developed a playable action game inspired by Plants vs. Zombies in Python
- Gained deep understanding of **Object-Oriented Programming** (classes, abstraction, inheritance, method lookup, local and instance variables, polymorphism)

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, HTML, CSS, SQL, Scheme (Lisp), C/C++, Regex, Ruby
Tools: Git, React.js, Linux, PostgreSQL, Flask, Node.js, Bootstrap, Jupyter Notebook, Ruby on Rails, Heroku
Libraries: Pandas, Numpy, Grommet, Matplotlib, Seaborn, Tensorflow, Scikit-Learn, Librosa, SciPy