

Jonathan Mai

Walnut, CA | jonathanmai@gmail.com | 626-551-8436

[LinkedIn](#) | [Github](#)

EDUCATION

California State University, Fullerton

Bachelor of Science in Computer Science, 2022 - 2024 Winter (Expected)

GPA: 3.73

EXPERIENCE

Software Engineer Intern | PanPalz

July 2024 - Present

- Migrated and restructured legacy registration code into a new project setup, placing it in a "legacy" directory and removing backend dependencies.
- Created and updated UI components, including buttons and forms, to fit the new project structure.
- Ensured the registration feature loads by default in the new application setup.

Substitute Teacher | The Education Team

May 2024 - Present

- Conducted daily lessons and managed classroom dynamics in the absence of regular teachers, ensuring a smooth learning experience for students.
- Collaborated effectively with school staff to address concerns and resolve issues, emphasizing open communication and problem-solving.

PROJECTS

Spotify Mood Analyzer (React.js, Tailwind CSS, Node.js, Express, MySQL, SpotifyAPI)

- Developed a full-stack React application with Tailwind CSS for the front-end, utilizing Node.js and Express for the backend, and MySQL for database management.
- Integrated Spotify API to fetch users' recently played songs, analyzing and calculating metrics like valence levels and acousticness to assess and display their mood trends over time.
- Implemented d3.js for dynamic data visualization, creating interactive graphs to effectively represent mood variations based on the musical attributes of the user's listening history.

Personal Finance App (Swift, OpenAI API, iOS)

- Developed a SwiftUI-based iOS app for budgeting, reminders, and a chatbot, featuring interactive pie charts for financial planning.
- Implemented user-specific budgeting calculations based on student and debt status, with dynamic expense categories and visual representation.
- Integrated notification scheduling for reminders and a chatbot using OpenAI API, providing financial advice and support through a conversational interface.

Compiler (Python, Rat24S)

- Developed a Compiler in Python for parsing Rat24S (course specific language) source code, utilizing Finite State Machines to accurately identify and categorize tokens such as keywords, identifiers, integers, and real numbers based on predefined sets of rules and transitions.
- Engineered state transition systems for the analyzer, enabling skipping of comments and the handling of complex lexemes, including compound operators and varying token types, ensuring error handling for invalid tokens.
- Designed and implemented a Syntax Analyzer and Intermediate Code Generator (ICG) module to process parsed tokens from the Lexical Analyzer, constructing abstract syntax trees for Rat24S grammar rules, validating code structure, and generating ICG instructions.

TECHNOLOGIES AND LANGUAGES

- Python, C++, Java, JavaScript, Typescript, React, Node.js, Swift, MySQL, HTML, CSS, Tailwind CSS