#### Jonathan Mai

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#### **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 the new project setup
- Created and updated 3+ UI components, enhancing user interaction and consistency across the platform.
- Developed and implemented the One-Time Code verification screen, ensuring customizable prompt messages, input field, and "Continue" button using reusable components for a consistent and responsive user experience

# **Substitute Teacher | The Education Team**

May 2024 - Present

- Managed classrooms of 30+ students across various grades, ensuring curriculum continuity in subjects like math, science, and language arts
- 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)

- Integrated Spotify API to analyze 150+ songs, helping users track mood variations based on musical attributes such as valence and acousticness.
- Utilized d3.js to design interactive graphs, improving data interpretation compared to static charts.
- Reduced API data-fetching time by 25% through optimized backend processes in Node.js and Express.

# AI 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 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