Brandon Chiou

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EXPERIENCE

Software Engineer Intern   Aug. 2023 – Sep. 2023
RealSun Information Tech Co. Ltd   *Taipei, Taiwan*
- Developed an ETL pipeline using Java to clean then store medical log data from XML files to MariaDB, increasing efficiency for the backend team
- Integrated the pipeline to retrieve medical records from the company's API endpoints, then stores each record in the corresponding database

EDUCATION

University of California San Diego   Aug. 2023 – Present
B.S. Data Science   *3.88 GPA*
Coursework: Advanced Data Structures, Advanced Algorithms, Database Systems, Recommender Systems

PROJECTS

Harmony Messaging, Voice, and Video App | *React, Rocket, Postgres, AWS*   July 2024 - October 2024
- Created a full stack messaging, voice, and video app using **React** and **Rocket**, where users can interact in chat rooms and direct messages
- Used **AWS S3** and **CloudFront** to store and deliver images for icons, profile pictures, and messages
- Utilized **WebRTC** for voice and video calls and **websockets** for messaging, using SFU architecture to handle group calls
- https://harmonyapp.xyz/ https://github.com/binkybarnes/harmony

Hidden Markov Model Movie Recommender | *Rust*   August 2024 - August 2024
- Built a Hidden Markov Model in Rust to recommend movies based on user ratings and probabilistic modeling of user preferences
- Developed custom functions to read and parse arrays from text files into the model, including numerical and categorical data
- Implemented Expectation-Maximization (EM) algorithm to iteratively optimize type and rating probabilities, improving recommendation accuracy through log-likelihood maximization

Money Tracker App | *React, MongoDB, Express.js, Node.js*   December 2023 – December 2023
- Created an interface with **React** to submit, update, and delete transactions to a **MongoDB** database
- Implemented custom authentication to secure user accounts, managing user sessions and access tokens
- Deployed the project to vercel

Spotify Playlist Downloader | *Python*   August 2023 – September 2023
- Wrote a Python script to download Spotify playlists locally
- Leveraged Spotify and YouTube APIs to aggregate song audio files

Amazon Review Sentiment Analysis | *Python, Jupyter*   May 2023 – May 2023
- Wrote a Python script to scrape Amazon product reviews, then performed sentiment analysis on the reviews
- Used a text classification checkpoint to generate sentiment scores

TECHNICAL SKILLS

Languages: JavaScript/TypeScript, Rust, C++, Python, Java, R
Technologies: React, AWS, Postgres, Rocket, Express.js, Docker, Nginx, Node.js, MongoDB, Express.js, MariaDB, SQL, NoSQL, HTML, REST APIs