

KEVIN MAO

Software Engineer

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SKILLS

JavaScript, React, Redux, HTML, CSS, Ruby, Ruby on Rails, Mongoose, MongoDB, Node.js, Express.js, SQL, PostgreSQL, Webpack, jQuery, Git, Heroku, AWS, Python, Tensorflow, Java

EDUCATION

Bachelor of Engineering - Cooper Union 2016 - 2020

Major in Mechanical Engineering, Minor in Computer Science, cum laude (GPA 3.5)

Web Development - App Academy 2020 - 2021

Immersive software development course with a focus on full-stack web development, which entailed 1000+ hours of coding.

PROJECTS

Ahchoo | (Rails, React/Redux, PostgreSQL, HTML, CSS) [live](#) | [github](#)

A single-page full stack clone of Robinhood, allowing users to execute trades and view updated portfolio value

- Implemented custom user authentication on both the frontend and backend, rendering errors on invalid credentials to deliver an effortless user experience
- Developed CRUD actions using live data from IEXCloud financial data API, and integrated back and frontend communication using ajax requests and Rails Action Controller.
- Created Active Record association of user watchlist and backend calculation to update user portfolio value/holdings.
- Utilized unidirectional state management of Redux and React components to manage data for form inputs and submissions.

Altus Empire | (MongoDB, Express, React/Redux, Node.js) [live](#) | [github](#)

A MERN stack web application for NYC medical cannabis dispensaries with user review functions and map

- Designed and integrated back and frontend user authentication, ensuring data encryption using JSON Web Tokens.
- Facilitated back and frontend collaboration, continuously integrating Axios, Express routes and frontend state to ensure smooth implementation of web application functionalities and dynamic frontend rendering.
- Supported backend lead with CRUD review functionality, designed validation and review querying logic using Mongoose.

Park It | (Javascript, HTML5) [live](#) | [github](#)

An arcade-style javascript game rendered with HTML Canvas and DOM manipulation, allowing users to drive and navigate race car

- Created a single-user parking game using Javascript with an Object-Oriented Programming approach to ensure separation of game and animation logic.
- Built custom collision detection between circles and rotated rectangles, allowing users to interact with objects with realistic physics simulation.

Building Efficiency Research (Python, TensorFlow) [github](#)

Senior Mechanical Engineering Research Thesis using Machine Learning

- Used a multi-feature Bayesian linear regression model to predict air handling unit energy consumption.
- Built and trained a deep neural network using TensorFlow to counterfactually optimize energy consumption, significantly improving the Bayesian prediction.

EXPERIENCE

Summer Product Owner

MarketAxess Jun 2019 - Aug 2019

- Led the enhancement of price limit level input on workstation for spread and MME yield based products, leading to an average saving of 60 seconds per trade execution.
- Analyzed the proprietary "Auto-X" trade automation algorithm's user preferences based on trading criteria for all fixed income market segments using SQL and VBA.

Engineering Intern

Farm.One May 2018 - Dec 2018

- Designed, prototyped, and programmed seeding automation robots, increasing efficiency by 33% per seed batch. Presented the automation technology at the Food Loves Tech 2018 event.
- Implemented a PostgreSQL database for storing historical plant health and nutrient supply data, centralizing data for growth analytics.