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.
- 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 wishlist 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 segment using SQL and VBA

Engineering Intern

Farm.One   May 2018 - Dec 2018

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