JUSTIN SUEN

SOFTWARE ENGINEER

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PROJECTS

Chartesian (Rails, React, Redux, Recharts.js)   LIVE | GITHUB

Single-page application for data visualization and dynamic charting

- Implemented CRUD features with RESTful API routing in Rails and utilized Redux Thunk to dispatch async AJAX requests
- Built interactive charts by binding user uploaded data to DOM using Recharts.js
- Optimized app performance with React lifecycle methods and DRY use of state and props in components
- Parsed JSON, CSV, and TSV files using the external FileReader API with asynchronous callbacks

Shiparoo (Rails, React, Redux, React Native)   LIVE | GITHUB

Elegant web and mobile package tracking application with realtime SMS updates

- Integrated the Shippo Tracking API and Google Maps API for visualization of package history
- Utilized webhooks and Twilio's SMS API to send realtime shipment updates
- Implemented OAuth2 using Auth0 for social media authentication and user database

VisuAlgos (JavaScript)   LIVE | GITHUB

An interactive visualizer for various path-finding algorithms

- Implemented efficient depth-first, breadth-first, and A* searches to find a path from a starting position to an ending position
- Solved weighted graphs using graph algorithms and visualized grid and path using jQuery and DOM manipulation

Kidney Donation Exchange (Python, Java)   GITHUB

A solver to pair kidney donors with recipients under constraints

- Utilized dynamic programming to determine the subset of cycles that remain after eliminating conflicting nodes
- Developed a recursive Python cycle detector using Dijkstra's algorithm and cut recursion depending on the length of path

SKILLS

LANGUAGES

JavaScript	Ruby
Python	RSpec
CSS3	HTML5
Java	SQL
C++	R

DATABASES

PostgreSQL
SQLite
MySQL

TECHNOLOGIES

React	Redux
Rails	React Native
Node	jQuery
AWS	d3.js

EDUCATION

University of California, Berkeley   Aug '12 - May '16

Bachelor of Arts in Mathematics

Curriculum Highlights: Efficient Algorithms, Data Structures, Numerical Analysis, Optimization, Linear Algebra, Computing with Data, Probability

EXPERIENCE

UC Berkeley Educational Technology Services   Aug '13 - Present

Web Developer, Scheduler, and Computer Consultant

- Scheduled ~100 staff into facilities using advanced Excel spreadsheets weekly
- Hosted 6 effective workshops on HTML, CSS and LATEX for ~30 coworkers and students
- Engineering an automated web-based scheduler on Rails with React to cut scheduling costs and improve efficiency by 85%

Professor Michael J. Klass, UC Berkeley   Aug '16 - Dec '16

Programming Assistant

- Implemented statistical algorithms in Python and C++ to analyze degree of randomness in random number generators using Quantis generator API