Justin Shieh
Software Engineer

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SKILLS
JavaScript, Node.js, React, Jest, Ruby on Rails, PHP, Laravel, Python, MySQL, MongoDB, PostgreSQL, Java, Git

EXPERIENCE

Software Engineer
Curology   Mar 2020 - Present

- Redesigned application survey architecture using Laravel, MySQL, and React to allow surveys to be generated through an interactive UI, improving developer experience and iteration speed by 10x.
- Deconstructed monolith application using domain driven design, enabling an easier transition to microservice architecture.
- Mentored intern through onboarding process, pair programming and code reviews to build email validation system that reduced email bounce rate by 18%.
- Collaborated with finance team to refactor internal tax code by leveraging TaxJar API, enhancing error logging through Sentry and ability to recover from outages through retriable jobs.
- Ensured 95%+ code coverage through PHPUnit, Jest and Cypress testing.

Undergraduate Research Assistant
University of California, San Diego Soft-tissue Biomechanics Laboratory   Sep 2017 - Jun 2019

- Characterized the time course and magnitude of pulmonary vasculature and the relation to cardiac function and published findings to ASME Journal of Biomedical Engineering.
- Developed MATLAB program for data alignment from multiple sources and algorithmic signal smoothing.

PROJECTS

Dimension │ *(React/Redux, Rails, PostgreSQL, ActionCable/WebSockets, AWS S3, WebRTC, Heroku)*   **live** | **github**
A single-page Discord clone where users create Servers/Channels to send messages and video chat.

- Optimized database search speed by removing N+1 queries, using ActiveRecord's associations to extract data from multiple tables in a single query.
- Leveraged AWS S3 to store image uploads, reducing server load and allowing the app to scale gracefully.
- Incorporated Rail's ActionCable with Redis to manage WebSocket connections for live-chat and displaying online status in real-time.

Delicieux │ *(MongoDB, Node.js, Express, Webpack)*   **live** | **github**
A dynamically updating meal planning application with smart recipe suggestions based on ingredients and diet goals.

- Reduced number of REST API hits by selectively caching commonly used ingredient information, improving website responsiveness by 5x.
- Harnessed Redux single-state management to streamline communication between backend and frontend architecture to facilitate CRUD functionality, allowing users to update their meal plan and ingredients accurately.

Amaurosis │ *(JavaScript, HTML5, CSS)*   **live** | **github**
A minimalistic puzzle solving game built with JavaScript.

- Established a unidirectional data flow architecture with a single application-level state object to prevent mutated state and data collision, ensuring reliable DOM rendering.
- Built a custom physics engine using JavaScript to support collision of multiple objects, manage player and AI movement patterns, and calculate vector changes due to objects reflecting off walls or passing through portals.

EDUCATION

App Academy - Software Engineering Bootcamp, 2019
University of California, San Diego - *Biomedical Engineering, GPA: 3.7, 2015-2019*