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   2020-2021

- Redesigned application survey architecture using Laravel, MySQL, and React to allow surveys to be dynamically generated or 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%.
- Refactored internal tax code to leverage TaxJar API, enhancing error visibility and ability to recover from outages through retriable Laravel jobs.

PROJECTS

Dimension | *(React/Redux, Rails, PostgreSQL, ActionCable/WebSockets, AWS S3, WebRTC, Heroku)*   **live** | **github**
A single-page Discord clone where users can add friends, upload profile photos and 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 grocery management and meal planning application with smart recipe suggestions based on stored ingredients, filter parameters and diet goals.

- Led team of four developers by directing design discussions and delegating engineering tasks.
- 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 minimalist birds-eye view sensory-deprivation experience that challenges players to solve complex puzzles without the traditional use of sight.

- 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.
- Decreased graphic rendering lag by implementing a "camera" via html5 Canvas that follows the player's movement and reveals only a limited field of view, allowing the game to selectively render only what the player can see.

EDUCATION

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