Edward Li

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Technologies

TypeScript, JavaScript (ES6), NoSQL (MongoDB), SQL (PostgreSQL), React, Redux, Node, Express, MUI, Docker, Kubernetes, Github Workflow, Jest, Python, Webpack, CSS, HTML, Microsoft Suite, CompuSyn

Experience

Kubernautics (Open Source) **Los Angeles, CA**
Software Engineer 2023-Present
Kubernetes Monitoring Dashboard

- Designed a light-weight dashboard that enhances the observability of a Kubernetes cluster, displaying a network map depicting the cluster's topology and charts with Prometheus-backed metric data
  - Implemented a user-centric approach in the application, curating a subset of Prometheus query Language (PromQL) options to allow users to retrieve and present metrics from the Prometheus server without requiring a baseline knowledge of PromQL
  - Established a pull-model utilizing local storage to save PromQL statements, rendering chart visualizers in a custom time interval, reducing resource utilization by limiting fetches to the Prometheus server solely when new data is pulled
  - Guided project management initiatives, fostering agile methodologies by facilitating continuous communication through meticulous code reviews, task prioritization, and realigned team objectives to harmonize with ongoing progress to actualize deliverables within project deadline
- Engineered a scalable server architecture utilizing Node.js and Express, taking advantage of the asynchronous capabilities of Node.js and the simplicity of Express to create a highly responsive and modular backend
  - Integrated Devspace to enforce a standardized development environment across various operating systems within the team, leveraging Devspace's hot-reload feature observe to implement code changes without constantly rebuilding container image
  - Employed a micro-services architecture with Dockerfiles and Kubernetes YAML configurations that deploy Kubernautics and target applications together, minimizing latency by eliminating the need for a constant inter-nodal communication

Caltech **Pasadena, CA**
Research Technician *2021-2023*

- Leveraged VBA scripts to analyze experimental results, developing customized templates to streamline data processing by 300%, enhancing reusability, and ensuring clear documentation in data analysis
- Solidified the decision-making process for high-throughput screening hits through a series of subsequent experiments, providing confidence in the progression of compounds through the research funnel

Projects

Validator – AI Emotion Validator

- Utilized React Router to organize component rendering, optimizing application performance by minimizing fetch requests to the backend server, compartmentalizing the rendering to the frontend to function as a single page application (SPA)
- Executed the deployment of Azure SQL, ensuring adherence to ACID compliance standards and strategically prioritizing future scalability options
- Integrated with OpenAI API to enhance conversational AI interactions by pre-populating contextual scenarios, providing a structured foundation for the AI to comprehend and respond accordingly to user inputs
- Employed bcrypt for user authentications, eliminating the storage of sensitive information and fortifying the application from security breaches that risk user privacy and data

Cognition – Flashcard Learning Tool

- Leveraged React's capability for efficient state management through prop drilling, focusing on the organization of modular components for reusability and ensuring a scalable codebase for future developer-iteration.
- Configured and employed Webpack for development and production environment, enhancing build process efficiency, reducing load times, and providing a seamless hot reloading of the application, improving development speed.
- Orchestrated a NoSQL solution using MongoDB to implement a flexible data schema for a CRUD application, prioritizing rapid data retrieval and creation whilst facilitating agile development and improved scalability of the application.

Education

University of California, Santa Barbara **Santa Barbara, CA**
Bachelor of Science in Biochemistry *2021*
Relevant Coursework: Programming in Biology, Biochemistry - Computational and Systems Biology, Vector Calculus, Linear Algebra

Skills

Language: Fluent in English, Conversational in Cantonese, Learning Spanish
Interests: Hosting dinner parties, Food blogging, Ceramic Making, Rowing, Badminton, Tennis, Training for marathon