

# Ernest Leung

Software Engineer | Los Angeles, CA

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## TECHNICAL SKILLS

Strong: Javascript (ES5+), Node.js, Express, React, SQL (PostgreSQL), NoSQL (MongoDB), Git/Github, Webpack, HTML  
Experienced: Redux, TypeScript, Electron, Testing (Jest), WebSocket, Kafka, Docker, AWS (Lambda/S3/Dynamodb), CSS

## EXPERIENCE

**Software Engineer** | OS Labs | *Contractualapp.io*

Irvine, CA | Feb 2022 – Present

- Developed a cross-platform desktop application with Node.js runtime in Electron to maximize user base, and modified environment variables to provide consistent performance and compatibility across Mac, Windows, and Linux OS
- Bundled application with Webpack to leverage code-splitting and uglification to reduce bundled files size by 30% and improve loading time by 1.5s, while maintaining a seamless development environment for future scalability
- Implemented WebSocket to establish a full-duplex connection to optimize network traffic by 20% to enable fast and asynchronous live updating of contracts' logs between the test API server and client
- Defined TypeScript interfaces and custom types to implement strict and structural typing throughout the application, which guarantees seamless code management, scalability, and minimized compile-time errors
- Debugged application codes with Chrome DevTools and revamped UX/UI, resulting in 3X more conversions in the user base
- Originated custom libraries to validate input contracts and intelligently generate mock API responses based on data types
- Designed ACID-compliant SQL database to store complex JSON data and refined queries to optimize server performance
- Deployed landing page with AWS Amplify for CI/CD, leveraging NextJS' static rendering for fast load times and rich UX

**Research Associate** | Gear Asset Management

Hong Kong | Jan 2021 – Jun 2022

- Converted handwritten performance report to automated excel template with VBA, achieving a 70% reduction in manpower
- Implemented SQL and VBA to generate refreshable visualizers to analyze NOI, IRR, and Cap Rate for 500+ commercial properties

## OPEN SOURCE CONTRIBUTIONS

**Fullstack Engineer** | Code-Station

May 2022 – Aug 2022

- Initiated 10+ user-facing features with the container pattern in React, and created reusable components to easily maintain and uniformize the codebase through abstractions and the Flux architecture, ensuring maximum efficiency
- Incorporated Redux and custom hooks to streamline complex state management via the unidirectional data flow pattern
- Built custom plugins for ESbuild to dynamically fetch and cache imported modules, accelerated in-browser loading and bundling time by 6X and 35% code transpiling and executing time

**Backend Engineer** | Escape Date

Jan 2022 – Mar 2022

- Integrated with Express to enable the setup of RESTful API to leverage modularized middleware design patterns, ensuring all requests have undergone error checks before completion with 100% accuracy
- Performed 20+ automated unit tests, integration tests, and end-to-end tests to verify functionalities, promoting application scalability and alerting devs on breaking changes during feature development
- Incorporated BCrypt's salt hashing algorithm and cookies in Express middlewares to enhance account security and login experience, thus reducing the risk of brute force attacks and cookie hijacking

**Fullstack Engineer** | CHATual

Jul 2021 – Sep 2021

- Restructured an additional layer of protection in Electron to protect the application from cross-site scripting and data injection attacks, thus reducing 60% of potential exploitation
- Leveraged Redux to preserve a single source of truth and orchestrate state changes using the observer pattern of nested data sets, enabling predictability and data integrity across system-wide components for efficient debugging
- Configured hosted server architecture to handle a high volume of requests, rapidly retrieve chat logs, and scale horizontally

## EDUCATION

- CS Software Engineering Immersive – *OOP, Modern React, API Design, DevOps*
- University of California, Los Angeles – *B.A in Economics*

Santa Monica, CA | Sep 2021

Los Angeles, CA | May 2018

## Talks and Publications

- Message Brokers – *Single Sprout Software Engineering Speaker Series*
- Medium Article – *"Why Contract driven development is the new TDD"*

## Interests

Tennis, Basketball, Football, Chess, PC Building, Website Design, Interior Design, Piano, Travel, Coffee, Dogs