

MICHAEL COSTELLO

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Skills

Strong: TypeScript • JavaScript • React • Redux • Express.js • Node.js • SQL • NoSQL • Jest • OAuth 2.0 • Git • CSS
Experienced: Python • CI/CD • AWS • Docker • Cypress • Tailwind CSS • Linux • Bash/Shell • Machine Learning

Experience

Software Engineer, *dbSpy*

2022 - Current

- Programmed developer tool for logical modeling of PostgreSQL and MySQL databases, providing the tools developers need to build and visualize their RDBMS schema during the discovery phase of projects
- Wrote unit tests, HTTP server integration tests (Jest), and e2e tests (Cypress), increasing test coverage by 52%
- Reduced loading time of feature for pulling schema from user's remote PostgreSQL database from 90 s to 340 ms by writing faster queries, removing blocking logic from the backend, and refactoring Express.js middleware
- Deployed to AWS with Docker, Elastic Beanstalk, and Elastic Compute Cloud, increasing scalability and reliability through AWS load balancing, and facilitating development by containerizing the dev environment
- Automated CI/CD by creating Github Workflow that tests code before pushing to production and deploys the application to AWS, streamlining the development process and speeding up time to market
- Created a scalable state management system, leveraging React Hooks, ES6 modules, and state management library (Zustand), decoupling frontend components and facilitating the addition of new features
- Defined types and interfaces with TypeScript across the application's frontend and backend, creating type safety, speeding up onboarding, and increasing consistency across the application's code
- Implemented security best practices by scrubbing and validating inputs in the frontend and REST endpoints as well as by encrypting (TLS) communication between server and users' remote databases
- Improved entity relationship diagram visualization by dynamically positioning foreign key edges, allowing users to more quickly and accurately determine data relationships and accommodating larger schema
- Developed in an Agile team of 4-5 engineers under tech accelerator Open Source Labs (opensource.labs.io)

Fullstack Developer, *Momogo*

2021 - 2022

- Developed prototype for a restaurant recommendation and delivery app within a team of 2 (CTO and myself)
- Created a mobile-friendly interactive map interface, integrating with REST APIs and back-end services, allowing users to easily view and select delivery locations for autonomous delivery robots
- Implemented frontend and backend authentication and sessions with Bcrypt and JWT on a Node.js server
- Programmed restaurant recommendation screen and map screen with React, Redux, and React Router, enabling fast, dynamic page-switching experiences while keeping state consistent across application

Recent Projects

Coalescent, *Lightweight Project Management Application*

2022

- Leveraged WebSockets to create a low-latency, persistent connection between server and client, allowing instantaneous project updates to be reflected on associated teams' devices in real-time
- Enhanced SQL schema for user data by automatically enforcing business logic, enabling efficient creation and deletion of user data relationships without multiple calls to the database server

Pitch It, *Project Collaboration Platform*

2022

- Secured backend user-session functionality by rewriting SQL queries to remove SQL injection attack vectors
- Debugged complex frontend and backend business logic with JavaScript debug terminal and Redux DevTools

Public Speaking

Message Brokers, *Jeeny & Bractlet Software Engineering Speaker Series*

2022

Presented an overview of message broker technology, the state of message brokers today, competitive consumers, topics and subscriptions, and the publish/subscribe messaging pattern

Education

Codesmith, *Advanced Residency for Software Engineering*

University of Florida, *B.A.*

Interests

- Board game design (theory, prototyping, playtesting)
- Traditional Korean brewing (cheongju, yakju, takju, makgeolli)
- Weekly indie video game discussion group
- Film (PTA, Malick, The Criterion Collection)