

# Ryan McDaniel

Senior Software Engineer

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## TECHNICAL SKILLS

JavaScript, TypeScript, React, Redux, Node.js, Express, SQL (PostgreSQL), NoSQL (MongoDB / Mongoose), Docker, AWS, CI/CD (GitHub Actions), HTML5, CSS/Sass, GraphQL, Webpack, TDD (RTL, Jest, Mocha), Version Control (git), WebSockets

## EXPERIENCE

Senior Software Engineer & Team Lead, **CS Engineering**

May 2022 - April 2024

Software Engineer & Engineering Instructor

May 2021 - May 2022

- Maintained ed tech learning platform, public site, and internal tooling built with TypeScript, React, Redux, Postgres, and Node/Express, tested with Jest/RTL/Cypress, and streamlined with Docker and GitHub Actions.
- Spearheaded React-Redux codebase modernization, delivering major version updates to core application dependencies and achieving 100% class to functional component migration, resulting in a significant reduction of technical debt.
- Implemented React Testing Library and Jest for comprehensive unit and integration testing, simulating real-world user interactions in order to identify defects early, verify complex renders, and enable quicker debugging cycles.
- Contributed to large-scale TypeScript migration aimed at improving application maintainability and scalability, ultimately resulting in a 30% decrease in bug reports and a cleaner code architecture.
- Optimized central Node/Express logic by eliminating unnecessary queries and streamlining middleware, leading to increased platform reliability, targeted UX improvements, and expanded functionality in a pivotal internal tool.
- Developed a GitHub API integration to enable granular permission management across an array of company repositories, reducing administrative overhead and enhancing security measures for both technical and non-technical team members.
- Led a team of 7 engineers through a long-term platform overhaul via frequent in-depth code reviews, direct feedback, pair programming, and help desking, while adhering to a scrum workflow for timely feature launches.
- Delivered technical training to hundreds of junior engineers on core full-stack technologies and fundamental computer science concepts, strengthening proprietary curriculum and orchestrating large-scale technical growth.
- Managed 10 contractors and 2 full-time direct reports, improving organizational strength via expanded training processes, professionalized documentation, team culture cultivation, cross-division collaboration, and consistent process iteration.

Software Engineer, **lexiQL** - GraphQL migration aid developed under tech accelerator **OSLabs**

Feb 2021 - May 2021

- Engineered an algorithm to automate the generation of comprehensive GraphQL schemas from relational database inputs, facilitating the developer transition from a traditional RESTful architecture to GraphQL's efficient single-endpoint design.
- Leveraged React Context API and hooks to manage stateful logic in order to avoid unnecessary re-rendering, decrease error potential by eliminating unnecessary prop-drilling, and enable more declarative code.
- Used React Router to create dynamic, declarative routes within a single page application (SPA), decreasing server calls with client-side routing while displaying multiple page views and measurably improving application load time.
- Applied React Flow for interactive visualization of relational database tables and relationships, generating graphical representations of abstract concepts to facilitate better planning, faster debugging, and optimization across a dev team.
- Integrated Node.js and Express for efficient GraphQL query processing via custom middleware, capitalizing on Node's non-blocking I/O capabilities to boost API performance and reliability.

## SELECTED PROJECTS

**algoLife** - Algorithm-solving platform with in-browser Mocha/Chai testing

- Employed TypeScript's static typing system in order to significantly reduce runtime errors and boost code predictability, resulting in increased developer productivity and accelerated development cycles.
- Deployed PostgreSQL database to organize extensible one-to-many relationships between tables while minimizing potential bugs with strictly enforced schemas, ensuring consistent and durable storage of user data.

**Yak** - Websocket-powered anonymous live message board

- Injected Redux to manage state in a modular React component architecture, producing a responsive SPA with limited prop-drilling and targeted re-renders, resulting in enhanced scalability and easier debugging.
- Facilitated real-time user posting by employing WebSockets, harnessing fast reaction time and continuous updates to handle high-frequency messaging and up/downvoting with small payloads, enabling a synchronous interactive UX.

## PUBLIC TALKS & WORKSHOPS

**JSHP Series**, 2022-2024, Async JS; Classes, Prototypes, & OOP; Closure; Higher Order Functions & Callbacks; Recursion

**Intro JS Series**, 2021-2022, Variables, Control Flow, & Looping; Functions & Objects; Intro to HTML & CSS

**SingleSprout Speaker Series**, 2021, Frontend Framework Alternatives in the React Era

## EDUCATION

Smith College, BA

Codesmith, Advanced Residency for Software Engineering

## INTERESTS

Scuba diving, amateur mycology, pineapple pizza, and slowly consuming the half-read books piled up on my bedside table