

# Hannah Bernstein

Software Engineer

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## EDUCATION

### University of Colorado Boulder

#### B.A. Computer Science

Boulder, CO

August 2018 - May 2022

- Relevant Coursework: Computing (C++), Data Structures, Algorithms, Software Development Methods & Tools, Database Systems, Data Science, Computer Systems, Principles of Programming Languages, HCI, Computer Graphics

#### Codesmith

#### Advanced residency for Software Engineering

Los Angeles, CA

August 2022 - November 2022

- Immersive training program involving daily pair programming, scratch and iterative development of full-stack projects; introduction to numerous programming languages, libraries, and frameworks
- Spoke on Load Balancers at Jeeny + Bractlet's Tech Talk Series

## TECHNICAL SKILLS

- **Strong:** JavaScript (ES6+), TypeScript, React, HTML5/CSS3/Sass, TailwindCSS, Node.js/Express, SQL & NoSQL Databases, GraphQL, RESTful API, Redis, Git/Github, TDD (Jest, Puppeteer, React Testing Library), CI/CD Pipeline, Vite
- **Experienced:** Python, C++, Redux, Auth (JWT, bcrypt), Webpack, Vite, NumPy, Pandas, Material-UI

## OPEN SOURCE CONTRIBUTIONS

**LATCHQL** - An open source, npm middleware package that adds additional layers of security with customizable configuration for role-based authorization of GraphQL APIs.

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2022-2023

- Employed Express middleware design pattern to intercept incoming requests to the GraphQL endpoint and subsequently apply custom limiting rules that prevent costly or potentially dangerous GraphQL queries from executing
- Developed a locally hosted GraphQL playground as a developer tool to test GraphQL queries using npm package before going live with permissions that are dynamically read from a configuration file
- Utilized React to create stateful, reusable, and easily-readable components and containers to be deployed on the GraphQL Playground GUI
- Used JWT to authenticate and authorize users using a generated token to maintain accurate distribution of permission levels without needing further access to the developer's user database
- Leveraged TypeScript and its use of static typing to avoid type errors becoming vulnerabilities while enforcing efficient and detailed logic throughout development leading to better development scaling
- Implemented Redis as a caching service to temporarily store user's cost analysis by user IP address to apply a role-specific rate limiter
- Executed Test Driven Development with Jest to maintain and anticipate functionality for completed and developing features
- Product formulated under tech accelerator Open Source Labs ([opensource.labs.io](https://opensource.labs.io))

## PROJECTS

**WHAT IN THE WORLD?** - A geography trivia "edutainment" game

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- Used React Hooks to facilitate component logic reusability, leading to a cleaner codebase for improved maintainability
- Prioritized Test Driven Development with Jest to identify the most succinct request and response required for optimal efficiency and to prevent REST API from over- and under-fetching throughout development

**MEET ME AT THE SPOT** - A location-based social media platform that allows users to share public or private posts

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- Expanded on a relational SQL database to support one-to-many relationships between users and the locations they create or view by category; adding access to upload photos under each post
- Implemented a user authentication workflow to securely hash sensitive input data using bcrypt and creating storage sessions with cookies for persisting data between logins

## INTERESTS & HOBBIES

Artificial Intelligence | Trivia enthusiast | Hiking + Camping + Snowboarding | Open source collaborator | Pianist | Yoga + Mindfulness | Web3 | Animal lover