

Dhruv Thota

Software Engineer

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Technical Skills

Strong: JavaScript (ES6+), React (Router, Hooks), Node.js, Express, SQL (Postgres, MySQL), NoSQL (MongoDB, Redis), TypeScript, HTML, CSS/Sass, Git, GraphQL, Webpack, RESTful APIs, Tailwind CSS, AWS (RDS, EC2), Docker

Experienced: TDD (Jest, Supertest), Redux, CI/CD (Travis CI), Chart.js, Material UI, OAuth

Experience

Cachier | *Software Engineer* | [GitHub.com/oslabs-beta/Cache-MoneyQL](https://github.com/oslabs-beta/Cache-MoneyQL) 2022 - Present

- Designed a GraphQL caching algorithm, combining the capacity of LRU with latency-based metrics, to evict cached items efficiently.
- Co-authored and published a scoped lightweight npm package that provides browser-side & server-side GraphQL caching solutions, with custom eviction policies and an option to perform partial retrieval of queries, reducing query latency time by up to 80%.
- Leveraged React's custom component structure and unidirectional data flow to display GraphQL API request/response data, leading to minimal DOM rerendering and accelerating app development.
- Integrated React hooks and GraphQL API to centralize state management allowing streamlined data flow and addressing prop drilling complications across multilayered nested components via interactive graphs depicting speed of cached vs uncached queries.
- Used React Router, hooks, reusable components and PostCSS transpiling to build a multi-page, streamlined user experience.
- Instantiated a cache eviction policy (LRU-SLFR) that optimized space and time complexity (constant lookup) via linked-hashmaps, latency metrics and query recency to make insertion and deletion rapid, maintaining cache storage efficiently.
- Orchestrated Redis database to construct a key-value data structure as an alternative to in-memory cache.
- Leveraged GraphQL introspection to implement partial query retrieval, minimizing re-fetching and reducing data redundancies.
- Applied Chart.js to enable user interaction and dynamic rendering of collated data, used clean interfaces to display performance metrics, query speed enhancements, and business insight into strategic cache evictions for developers.
- Implemented TDD via Supertest and Jest for proactively writing unit, integration tests to ensure scalability as features evolved.
- Managed waterfall-agile hybrid process to accelerate development with daily scrum meetings. Set sprint cycle goals, planned outlines and mediated conflicts.
- Product developed under tech accelerator [OS Labs](#).

Open Source Projects

Quitr | *Addiction breaking app with streaks and buddy system* 2022

- Implemented a SQL database due to its efficiency in querying and joining relational user and habit data. Sanitized user input, reinforced ACID compliance and persisted user data through structured schemas.
- Programmed styled components to accelerate client page load time. Elevated interactivity of user experience with React to keep users coming back to the app so their habit breaking journey is consistent.
- Created Webpack configuration for hot module replacement and effectively managed static assets in order to have control over app's bundling and optimize web performance.

gameBetter | *A suite of games to improve reaction time, memory, etc.* 2022

- Orchestrated React/Router to deliver a highly performant experience for end-users and a streamlined frontend development experience for the team.
- Used Node.js to construct a RESTful API to render static and dynamic content implementing an MVC system design model taking advantage of the middleware design pattern..
- Enforced data security protocols by integrating strict user authentication and verification systems via bcrypt, tokens and session cookies to persist users through the application.

Public Talks & Publications

Security (Encryption, XSS, CSRF) | Jeeny and Bractlet Tech Talk Speaker Series

2022

Education

Stony Brook University - Bachelor of Science, Dean's List

Relevant coursework: Object-Oriented Programming, Neural Computation, Foundations of Computer Science, Finite Mathematical Structures, Bioinformatics & Computational Biology, Linear Algebra, Probability Theory.

Interests & Hobbies

Woodworking & crafting: longboard, crossbow, skateboard rack, birdhouses, silhouette artwork. Kickboxing, basement boxing, snowboarding, weightlifting. Avid gamer. Hiking/camping in National Parks - have been to 9 so far on a cross-country road trip.