

Joel Samuel Raj A

 /useEffects

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Software developer with proven proficiency in web development. Polyglot and Gen AI enthusiast.

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 leetcode/useEffects

Skills

Programming languages: Javascript, Typescript, Python, Go, C, C++, Java, Dart, Bash, SQL, Rust.

Tools: React, React Native, Next.js, Flutter, Grafana, Linux, Nix, Docker, Git, Github, Nginx, Firebase, NoSQL, AWS, Langchain.

Experience

A2A Point L.L.C Founding Engineer (Full time) a2apoint.com Apr 2024 - Aug 2024, **6 months**

- **Tech stack:** Typescript, Python, React, React Native, Next.js (RSC), Keycloak, Directus, Postgres, Nginx, Docker, blue/green CI/CD.
- **Single-handedly** engineered the entire technological infrastructure of the business, inception to fruition in just **3 months**.
- The project includes web app, mobile apps deployed in [Play store](#) and [App store](#), CMS solutions for admins and users, newsletter, user courses, blogs, MFA authentication, in app ads, payment gateways (stripe), realtime chatting, push notifications and much [more](#).
- The closed community app for real estate agents in UAE, is estimated to have atleast **5000 active subscriptions** per month.

Tvarit GmbH Software developer intern tvarit.com Nov 2022 - Feb 2024, **1 year 4 months**

- **Tech stack:** Typescript, React, Go, Python, Grafana, AWS, Active Directory.
- Maintained our internal fork of **Grafana** and added multiple features to it, notably - custom emails, notifications, alerting strategies.
- Developed a plugin for Grafana that completely **changed** the way frontend is done in the company and soon **open sourced** it.
- Hands on experience with our **AWS** infra with Lambda, S3, CloudFront, API Gateway, RDS, EKS, CloudWatch, SNS, SQS, IAM; **Notably** - worked in refactoring every lambda functions to a single codebase and deploying it through CloudFormation.
- Built a queuing service for a proxy API that pre fetches and stores results on our middle server, reducing latency by up to 100%.

TNEA Online, Govt of Tamil Nadu Fullstack dev intern tneonline.org Apr 2022 - Sep 2022, **6 months**

- **Tech stack:** Typescript, Next.js, Nest.js, Firebase, Nginx, EC2, MongoDB.
- Developed a fullstack application to be used by all the colleges (**500+**) in the state to submit their govt. sanctioned student intake with documents for the 2022 academic year.
- Streamlined the manual data entry of over **200,000 seats** and gathering of over **2000** documents via post, now to be done online.

Coding club gct Board member codingclubgct.in [github/coding-club-gct](https://github.com/coding-club-gct) Aug 2022 - Jan 2024, **1 year 6 months**

- **Coding club mono repo:** The monorepo contains 5 Next.js apps and 1 package **published npm** that showcases our club's integrity in uniform design, code style, theming, maintaining an internal tech stack and much more.
- **Algolab:** Leetcode like platform built using Monaco editor that's powering the VS code and a custom judge system that supports compilation of 6 different languages. Self hosted in our **proxmox** instance and used in conducting fool proof semester examinations.
- **Custom nix configuration:** Developed a custom nix configuration to manage all computers in our computer labs. Earlier developed a custom **Arch based distro** using Archlive, (archived in favour of nix).

Projects

Golox: Go implementation of the lox interpreter from the amazing book [crafting interpreters](#) which used Java. Supports all the features of the original lox language (variables, control flow, functions, classes, inheritance, scoping, closures, error handling, etc).

Blogs: Pulls markdown files from the configured GitHub source and displays the it as blogs, built with the latest **react server components** hence static page generation for every blog post, page. Supports authentication, comments, likes, tags, api and more.

Design patterns: Design patterns implementations (C++) and blog. Held seminars and workshop in our club on this topic.

Comic AI: WIP Research project on single shot autonomous generation of comic books from written narratives using generative AI.

Achievements

- Contributor in expo.dev, directus.io notably made improvements to the websocket authentication in [directus](https://directus.io), PR - [22888](#) merged.
- **Member** in [catppuccin organization](#). Notably, [catppuccin for flutter](#) - ports the catppuccin color scheme to the flutter library.
- Won the state level **Dr. A.P.J Abdul Kalam young achiever** award for my contributions in TNEA online, Govt of Tamil Nadu.
- **Leadership:** Student representative, Mentor and tutored React.js for juniors and peers, who later secured internships in startups.

Education

Government College of Technology, Coimbatore

B.Tech in Information Technology

2020 - 2024

CGPA: 8.64