

Gagan Sapkota

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PROFILE

I am a software engineer with a background in mathematics and philosophy. I am a motivated self-starter and a selfless team player, with proficiency in Node.js, Ruby, and Go. Recently, I built Skopos: a cloud-based monitoring tool for testing multi-step API workflows.

EXPERIENCE

Software Engineer, Co-Creator

2022 – 2023

Skopos 🌐 <https://skopos-api-monitoring.github.io/>

Skopos is an open-source API monitoring tool for testing multi-step API workflows in sequence and independent workflows in parallel, built using Node.js, PostgreSQL, and AWS services (S3, ECS, EC2, Event Bridge, Lambda, and SNS)

- Designed the data model optimized for read-heavy access patterns, implemented the schema with Prisma for efficient data migrations, and added indexes to speed up queries (Typescript, Prisma, PostgreSQL)
- Developed and unit-tested the core logic for testing multi-step API workflows and implemented it with a state machine (Node.js, Express, Xstate)
- Containerized application and horizontally scaled it using AWS load balancer to enable parallel execution resulting in 10 times faster execution of the tests (Docker, ECS, EC2)
- Automated cloud deployment to create and configure 11 constructs on AWS using Cloud Development Kit infrastructure as code (VPC, ECS, EC2, Load Balancer, RDS, EventBridge, SNS, Lambda)
- Engineered the scheduling functionality using Event Bridge and the notification functionality using SNS to integrate with and decouple from the backend logic (SDK, EventBridge, Lambda, SNS)
- Crafted GraphQL queries and custom react hooks leading to the design of intuitive UI (GraphQL, React)
- Authored and presented a comprehensive case study 🌐 on the design decisions encountered while creating Skopos and the problems it solves

Software Engineer, Open Source Projects

2020 – 2022

Completed a mastery based online program focused on the fundamentals of software engineering while building projects on the side

- Designed and developed **WireSnoop**, a RequestBin clone for receiving and debugging webhooks. Utilized Nginx, Node.js, PostgreSQL, MongoDB and React
- Built **Ergo**, a task manager built with scalability in mind. Built using Ruby, Sinatra, PostgreSQL, and JQuery

Philosophy Instructor

2017 – 2021

University of Colorado, Boulder

- Advocated for a novel Global philosophy to diversify the Philosophy curriculum, got approved, and finally designed and implemented the course
- Successfully taught courses on formal reasoning and writing, improving students' abilities to reason about and articulate abstract problems
- Collaborated with colleagues to improve teaching by conducting peer review of teaching session and exchanging feedback on teaching strategies

SKILLS

Backend

Node.js, TypeScript, Ruby, Python, Go, PostgreSQL, MongoDB, Redis, Apollo, GraphQL, Express, Xstate, Mongoose, Gin, Jest, Pandas

Frontend

JavaScript, React/Redux, HTML/CSS, GraphQL, JQuery

Tooling

Git, Github, Docker, Heroku, DigitalOcean, AWS Services (ECS, EC2, Event Bridge, SNS), Kubernetes, CI/CD

EDUCATION

PhD in Philosophy, *University of Colorado, Boulder*

2016 – 2022

MA in Philosophy, *Georgia State University*

2013 – 2016

BS in Maths and Philosophy, *Saint Peter's University*

2008 – 2012