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PROFILE

I'm a software engineer with a passion for collaborating to solve challenging problems. I have experience with the JavaScript, Ruby and Go ecosystems. Most recently, I built Canopy [🔗](#), an open source framework that automates an end-to-end deployment pipeline that collects, transforms and stores CDN logs for analysis and visualization.

EXPERIENCE

Creator, Software Engineer, Canopy (<https://canopy-framework.github.io>) 2023 – present
Canopy is an open-source real-time monitoring framework designed specifically for CDNs

- Engineered the automatic provisioning and deployment of a real-time monitoring pipeline for CDN logs, condensing a complex multi-step deployment (CloudFront, Kinesis Data streams, Lambda's, SQS, S3, EC2, Clickhouse, Grafana) into just a few simple steps
- Built a custom log parser and router using Lambda which eliminated the need for Vector and AWS Firehose, helped significantly reduce pipeline latency, and improved debugging by pinpointing the reason behind log failures
- Designed the data model and schema for the storage of CloudFront real-time logs into a columnar database(Clickhouse)
- Architected and built a failed log pipeline that stores failed logs in S3 for debugging and compliance purposes
- Automated the deployment of Canopy's serverless frontend stack by using AWS(CDK, SDK, CloudFormation)
- Solved complex configuration issues by containerizing Canopy's backend stack(Clickhouse & Grafana) which required the development of custom Docker images and the orchestration of their communication using Docker-Compose
- Built an admin GUI dashboard using a 3-tier architecture that monitors the health of a user's deployed pipeline infrastructure (React, TypeScript, Node.js, Express, SQLite, Material UI)
- Created a CLI to facilitate configuration, deployment, and tear-down of Canopy's infrastructure, allowing users to accomplish with a couple of Canopy commands what would take over 100 API calls to AWS to accomplish
- Prioritized scalability, fault tolerance, and separation of concerns when engineering solutions
- Authored a comprehensive technical case study [🔗](#) on the design decisions and challenges of building Canopy
- Collaborated with a remote team of 3 developers across 2 time zones using an agile workflow

Software Engineer, Open-source Contributor 2020 – 2023

- Contributed to open-source projects: MDN [🔗](#), Sinatra [🔗](#), FSO [🔗](#)
- Developed various open-source web applications. Sample projects include:
 - WebhooksInspector: a real-time webhook debugging tool (React, Node.js, Express, TypeScript, Tailwind, MongoDB, PostgreSQL, Bash, DigitalOcean Droplet, Nginx, PM2)
 - FlyWise: Airline routing application that uses an SVG map and leverages Dijkstra's algorithm to find the shortest path (React, TypeScript, CSS)
 - CheckIt: a database-backed Todo app (Ruby, Sinatra, Erb, PostgreSQL, CSS)

SKILLS

Backend

Node.js, Express, Go, Ruby, Sinatra, Erb, Minitest, Rspec, PostgreSQL, SQLite, MongoDB, Clickhouse, Cyprus, Jest, Websocket, SSE, Webhooks, RESTful APIs.

Frontend

TypeScript, JavaScript, React/Redux, Jest, Mocha, jQuery, Handlebars, Bootstrap, Tailwind, Material UI, HTML.

Cloud

AWS: Cloud Development Kit (CDK), Software Development Kit (SDK), Elastic Cloud Compute (EC2), CloudFront, Kinesis Data streams (KDS), Firehose, S3, Simple Queue Service (SQS), IAM, VPC, Lambda, CloudFormation, CloudWatch, Route53, AWS Elastic Beanstalk, ECS.
Others: DigitalOcean Droplets; Heroku, Fly.io

Other

Git/GitHub, Docker, Grafana, Linux, Bash, Curl, Postman, Insomnia, Agile, Unit, Integration and End-to-End Testing, OOP.

EDUCATION

Bachelor of Science in Economics and Business Management, 2009 – 2012
Cadi Ayad University