El Mehdi El Manioui

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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/router using Lambda which eliminated the need for Vector and AWS Firehose (from our initial prototype), helped reduce pipeline latency by 26%, and improved debugging of the core pipeline 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
- Created a suite of Grafana dashboards that display critical CDN telemetry data for the purpose of monitoring the health and performance of a CDN
- 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)
- 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
- 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, Cadi Ayad University   2009 – 2012