

# El Mehdi El Manioui

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## PROFILE

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I'm a full-stack software engineer who enjoys diving into complex domains and solving unstructured problems. I have experience with the JavaScript, Ruby, and Go ecosystems. Most recently, I built Canopy, an open-source, low-config real-time monitoring framework designed specifically for CDNs.

## EXPERIENCE

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**Creator, Software Engineer**, Canopy (<https://canopy-framework.github.io>) 2023 – present

- 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 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
- Developed native support for monitoring parallel CloudFront distributions, which involved automating their attachment and detachment from the pipeline, all while keeping track of their metadata
- Created 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 that monitors the health of a user's deployed pipeline infrastructure (React, TypeScript, 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 (<https://canopy-framework.github.io/case-study>) on the 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, MongoDB, Socket.io, PostgreSQL)
  - FlyWise: Airline routing application that leverages Dijkstra's algorithm to find the shortest path (React, TypeScript, CSS)
  - CheckIt: a database-backed Todo app (Ruby, Sinatra, Erb, PostgreSQL, CSS)

## SKILLS

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### 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, Nginx, Agile, Unit, Integration and End-to-End Testing, OOP

## EDUCATION

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**Bachelor of Science in Economics**, Cadi Ayad University

2009 – 2012