

# Jason Ng

## Software Engineer

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### PROFILE

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I'm a voracious learner and resilient problem solver with multiple years of experience in the JavaScript and Ruby ecosystems, as well as Docker and Infrastructure-as-Code deployments using AWS. Most recently, I built Canopy, an open-source monitoring framework, designed specifically for CDNs.

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### EXPERIENCE

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**Software Engineer, Creator, Canopy**, ([canopy-framework.github.io](https://canopy-framework.github.io)) 📄 04/2023 – present

Canopy is an open-source low-config monitoring framework, designed for the Amazon CloudFront CDN.

- Architected an end-to-end pipeline for streaming Amazon CloudFront CDN logs to ClickHouse and visualizing metrics on real-time dashboards in Grafana, making it easier for developers to debug their CDN traffic
- Reduced buffering latency to a customizable amount (as low as 0 milliseconds) via a custom streaming solution engineered in AWS Lambda
- Implemented a buffer for re-streaming and retrying failed logs using AWS Lambda and Kinesis Data Streams, and a dead-letter queue using AWS SQS for routing failed logs to persistent storage
- Containerized and configured Canopy's backend infrastructure, including Vector, ClickHouse and Grafana for deployment on a single Docker network
- Implemented native support for monitoring parallel CloudFront distributions by automating their attachment and detachment to and from the pipeline, while tracking their meta-data with SQLite
- Automated 50+ AWS steps down to a single deploy command by writing AWS CDK code and deploying CloudFormation stacks
- Created a CLI to facilitate configuration, deployment, and teardown of the pipeline
- Collaborated remotely with a team of four software engineers across multiple time zones
- Authored a technical case study on Canopy's problem domain, architecture, challenges and design decisions ([canopy-framework.github.io](https://canopy-framework.github.io) 📄 )

**Software Engineer, Open-Source Contributor** 11/2021 – 04/2023

Developed open-source web applications, some highlights projects include:

- Request Warehouse: a real-time tool for debugging and testing webhooks (Node.js, Express, React, MongoDB, PostgreSQL, WebSockets)
- Done & Done: an interactive to-do list manager (Node.js, Express, SQLite, JavaScript, HTML, CSS)
- My Cookbook: a personal recipe keeper organized by cuisine (Ruby, Sinatra, PostgreSQL, HTML, CSS)

**Futures Trader, Self-Employed** 2011 – 2021

- Executed split-second decisions for trading index futures, based on technical analysis of volatility chart patterns, order flow, momentum of price movement and market conditions.

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### SKILLS

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#### Backend

Ruby, Node.js, Express, Sinatra, PostgreSQL, MongoDB, ClickHouse, WebSockets, RESTful APIs

#### Frontend

JavaScript, React, Jest, jQuery, HTML, CSS

#### Cloud

AWS: CDK, SDK, EC2, CloudFront, Kinesis Data Streams, Firehose, S3, SQS, Lambda, IAM, VPC, CloudFormation, ECS; DigitalOcean Droplets; Heroku

#### Other Technologies

Docker, Git, GitHub, Grafana, Linux, Bash, Nginx

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### EDUCATION

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**Launch School**, *Software Engineering & Full-Stack Development*

11/2021 – 04/2023

