Nathan Luong

Full Stack Developer/ AWS DevOps & Cloud Trainee

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EDUCATION

McMaster University, Hamilton, Ontario, Canada   September 2020 - May 2025
Bachelor of Engineering —Software Engineering Co-op   GPA: 3.5/4.0
Relevant Courses: Data Structure, Algorithms, Object Oriented Programming, Databases, Large-scale Software Design.

WORK EXPERIENCE

Full-Stack Engineer Intern   May 2022 – December 2022
Jamlabs Data Science   Toronto, Ontario, Canada

- Coordinated with lead DevOps engineer to integrate, and deploy a three-tier application onto existing **AWS cloud** infrastructure, via **Terraform** and **Docker Compose**, to run alongside 7 legacy services.
- Designed, implemented, and deployed a **PostgreSQL** database on **AWS Aurora** to store collected trading data that facilitates daily PNL calculations, account management, and data reconciliation.
- Design and create a **Virtual Private Cloud (VPC)** network to host a three-layer application, including 2 public subnets and 1 private data-access subnet, on top of the company's **AWS network**.
- Set up a **CloudWatch dashboard** to monitor all running **EC2 instances** and alert developers via **AWS SES**.
- Designed and implemented a **GitHub Action CI/CD pipeline** to automatically test and build custom **Docker Images**, which are stored and provisioned on a private **AWS Elastic Container Registry (ECR).**
- Implemented 4 **Express.js REST API endpoints** and their **unit tests**, enabling authentication and **CRUD operations** on existing **DynamoDB** and **AWS S3** clusters.
- Improved and automated **90%** of accountant's workflow on data collection and daily financial reporting.
- Utilized **Jest** and **Husky** to build automated **git workflows** and **unit tests** for 3 **JavaScript** code-bases.

Backend Engineer Intern   May 2021 – August 2021
Opal LLC   Los Angeles, CA, United States

- Collaborated with 4 other engineering interns to research and develop a blockchain-based transaction processing system on the **XRP Ledger** to ensure efficient and secure **NFT** transfers.
- Engineered a backend system using **Python Django** allowing users to upload custom NFTs onto two decentralized storage applications: **Pinata Cloud** and **InterPlanetary File System**.
- Automated CI/CD pipeline via **Jenkins** ensuring code reliability across operating systems.

EXTRA-CURRICULUM & LEADERSHIP

Ground Controls Team Lead   May 2022 – Present
McMaster Rocketry Team   Hamilton, Ontario, Canada

- Led a team of **12 engineering student** peers, to deliver a communication solution using **real-time Lora (Long-Range) Radio telemetry**, and data visualization for team entry into **Launch Canada Competition**.
- Acted as **project manager** for Flight Control and Ground Control teams; responsible for managing a **budget of $15k+,** developing project timeline and execution plan to meet competition deadlines.

PROJECTS

[Viz- Diagramming made easy](#) | **React, Tailwind, Redux**
- Developed a tool providing DevOps, and Solution Architect teams the ability to visualize **AWS infrastructures**.
- **Skilled Applied**: Front-end Development, AWS Architecture

[Personal Blog](#) | **React, Next.JS, MySQL, AWS S3**
- Developed my personal portfolio to showcase my skills, projects and work experience.
- **Skilled Applied**: Full-Stack Development, Web Design, Relational Databases, Data Structures

SKILLS & OTHER

AWS: Cloud Watch, EC2, IAM, BOTO3, Javascript SDK, S3, Elastic Beanstalk
DevOps: Jenkins, Docker, GitHub Actions, K8S, Terraform, Chef, Selenium, Maven
Cloud: Docker, Google Cloud Platform, GCP, AWS, CloudFormation, DataDog, Kubernetes
Languages: Python, Java, PostgreSQL, MySQL, DB2, JavaScript, TypeScript, HTML, CSS, R, C++, Verilog
Frameworks: React JS, Tailwind, Redux, Node.js, ExpressJS, NextJS, Flask, Django, FastAPI, Kafka, React Native, QML
Developer Tools: VS Code, Git, Github, IDE, Linux, Windows, WireShark, Jira, BitBucket, Confluence, MS Office Suite