

David Liao

Cloud Infrastructure + Development

davidliao.ca



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github.com/liaocanada



Education

Carleton University

Bachelor of Computer Science

Computer and Internet Security

Sept 2018 to Dec 2022

GPA: 11.9/12.0 (3.9)

Certifications

- AWS Solutions Architect - Associate (2020)
- AWS Cloud Practitioner (2019)
- Oracle Java SE 8 Professional (2019)

Skills

Infrastructure

- Amazon Web Services
- Docker
- Kubernetes
- Terraform
- Ansible

Programming Languages

- Java 8
- JavaScript/TypeScript
- Go

Web Development

- React
- Node.js
- Spring

Involvement

Community

- AWS Educate Student Ambassador
- Peer Mentor @ Science Student Success Center
- VP Communications @ Carleton CyberSec Club
- Teaching Assistant

Professional Development

- AWS Public Sector Summit
- cuHacking Hackathon
- BSides CTF, MetaCTF, JustCTF

Work Experience

Qlik

May 2021 to Present

Backend Developer Intern

- **Removed 10-15 seconds** from user wait times, using Kubernetes custom resources and controllers to **anticipate future load** during pod scaling
- Managed variations of **Kubernetes manifests** using Helm and Kustomize, and integrated Helm chart validation checks into the **CI workflow**
- Extracted common code from our **Go microservice** into a **shared library**

Environment: Go, Kubernetes, Helm, Docker, MongoDB, Argo CD, Prometheus, Grafana, Jaegar, Splunk, ELK, CircleCI, Gomplate, Bash, Nginx

Coveo

Sept 2020 to Dec 2020

Cloud Infrastructure Intern

- Managed **AWS infrastructure as code** using **Terraform** to consistently support 5 microservices across multiple environments
- Transitioned an **auto-scaling ECS cluster** from on-demand instance types to a **spot fleet** of mixed instance types, saving over 20% in operating costs while maintaining the original processing power
- Collected key **metrics** from running services and instances using Grafana and the AWS CloudWatch Agent, providing more accurate **insights on customer experience and system health**
- Configured **golden AMLs** for Windows Server 2016 using **Packer** and **PowerShell scripts**, which were used to launch new instances

Environment: Java, Terraform, PowerShell, C#, AWS EC2, ECS, Lambda, API Gateway, RDS, CloudWatch, CloudTrail, Docker, HashiCorp Packer, Ansible, Grafana, ASP.NET Core, Mockito, Spinnaker, Jenkins

NewPush

June 2019 to Dec 2019

Developer Intern

- Transformed large amounts of data and served it to clients through **12 web APIs**, while providing **live documentation** using Swagger
- Reduced API request times by 90% by implementing a **data cache** for commonly requested data

Environment: TypeScript, Node.js, Nest.js, Swagger, Angular, Jest, Jenkins

New Portal Corp

Feb 2018 to May 2018

Software Developer Co-op

- Developed an **employee management system** to be used by the Human Resources department using Spring MVC and JSP/Servlet
- Built and configured an Ubuntu Linux VM instance on Google Cloud Platform, and **deployed** the web application onto it

Environment: Java, JSP/Servlet, HTML5, CSS, Bootstrap, Spring MVC, Spring Security, Hibernate, MySQL, Google Cloud Platform, Apache Tomcat

Projects

(More on davidliao.ca)

Online E-Commerce Bookstore



Developer + Architect Lead (Team of 2)

An imitation **e-commerce bookstore** featuring shopping carts, account creation, order history, inventory tracking, and sales insights. Hosted using a **static frontend**, **Lambda functions backend**, and **serverless database layer**.

Environment: JavaScript, React, React-Router, Redux, Next.js, AWS Cognito, API Gateway, Lambda, Aurora Serverless, S3, CloudFront, Route 53, SSM