TIANYI ZHANG

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EXPERIENCE

IBM Canada - Db2 on Cloud
Backend Developer Intern

📅 May 2019 - Aug 2020   📍 Markham, Ontario, Canada

- Lead developer of control plane components for a controller-based **cloud-native** platform running fully-managed High Availability Db2 services on **Kubernetes**
- Implemented billing microservice with **Golang**, **Kubernetes Operators** and **PostgreSQL** to calculate and submit real-time customer high-watermark database usages at scale
- Consolidated backend **Golang gRPC** API service with **Google Protobuf**, delivered business-critical features of self-serve DB maintenance and remote restore
- Revamped **Open Service Broker** API implementation with **Ruby on Rails**, integrating Db2 service with **IBM Cloud** service catalog and IAM
- Built an automated orchestration pipeline for provisioning **EC2** instances running High Availability Db2 workloads on **AWS** with **Ansible**

Royal Bank of Canada
Full Stack Developer Intern

📅 May 2018 - Sep 2018   📍 Toronto, Ontario, Canada

- Developed an AI-powered business insight platform for commercial account managers using **Python Flask**, **Angular** and **Microsoft SQL Server**
- Integrated **business data** from various sources and generated daily industry reports by automating the workflow of **5** different tasks
- Implemented client-side-caching using **Angular HTTP Interceptor** to reduce web app latency by **40%**

McMaster University
Teaching Assistant

📅 Sep 2018 – May 2019   📍 Hamilton, Ontario, Canada

- Led weekly tutorials and provided academic assistance to **100+** students in two core CS courses: Intro to Computational Thinking (**Haskell**), Intro to Programming (**Python**)
- Significantly improved marking efficiency by automating weekly grading tasks for the D2L platform using **Selenium web automation** and **data scraping**

TECHNOLOGIES

Flask | Django | React | RestAPI | gRPC
SQL | MongoDB | Jenkins | RabbitMQ
Docker | Kubernetes | Helm | AWS | Git | Ansible

PROGRAMMING LANGUAGES

Golang | Python | Bash | Java

EDUCATION

B.A.Sc Computer Science Co-op
McMaster University

- Expected graduation date: **Apr 2022**
- Cumulative GPA 3.9 / 4.0

PROJECTS

GateKeeper

- A **full-stack** player management system for Minecraft servers based on **React, Redis, Golang, MongoDB, and RabbitMQ**
- Automated system deployment with **Docker Compose**. Also built **Helm Charts** for deployment on **Kubernetes** clusters
- Improved Go binding of **Source RCON Protocol** and devised a RabbitMQ **channel recovery** mechanism for enhanced reliability

AutoReddit

- An automation tool for online marketing on Reddit built with **Django**, **PostgreSQL**, **AWS SQS**, and **Docker**
- Utilized **Oauth2** to authorize with Reddit server and task queue system based on **Celery**
- Deployed on AWS using **Terraform** and **Ansible** for infrastructure automation and configuration management

Talky (NWHacks 2018)
1st popular vote out of 144 teams
Best Use of Microsoft Technology

- An IOS app that provides real-time feedback on users' public speeches
- Analyzed audios with **Python** and integrated the app with **Flask backend** and **Firebase** datastore
- Designed message-based UI with **Swift**

CERTIFICATIONS

- AWS Certified Solutions Architect - Associate

EXTRACURRICULAR

The Forge Startup Incubator

- Built **prototype** and designed **user flow** for a startup project focusing on local youth employment