TIANYI ZHANG

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WORKING EXPERIENCE

Backend Developer Intern
IBM Canada - Db2 on Cloud

📅 May 2019 - Present   📍 Markham, Ontario, Canada

- Lead contributor of multiple **control plane** components for a declarative **controller-based cloud-native** platform running elastic stateful Db2 services with **High Availability** on **Kubernetes**
- Implemented the billing microservice with **Go**, **Kubernetes controllers**, and **Postgresql** to collect and submit high-watermark customer usage for multiple metrics
- Developed the **gRPC** microservice for dynamically dispatching operations onto customer database instances in **Kubernetes** clusters with **Go**
- Built, tested and delivered an automated orchestration pipeline for provisioning production Db2 on cloud **High Availability** instances on AWS with **Ansible**

Teaching Assistant
Department of Computing and Software, McMaster University

📅 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 making efficiency by automating weekly grading tasks for the D2L system using **Selenium web automation** and **data scraping**

Full Stack Developer Intern
Royal Bank of Canada

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

- Developed an AI-powered business intelligence system for advisors to better engage with clients using **Python Flask** and **Angular**
- Integrated **business data** from various sources and generated daily industry reports by automating the workflow of **5** different tasks
- Implemented caching layer to decrease network calls and improved runtime performance by **40%**

SKILLS

Flask | Node.js | HTML | CSS | Angular | React

RestAPI | gRPC | SQL | MongoDB | Jenkins

Docker | Kubernetes | Helm | AWS | Git | Linux | Ansible

PROGRAMMING LANGUAGES

Python, Go   ●●●●●

Javascript   ●●●●○

Java, Bash   ●●●○○

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** whitelist management system for Minecraft servers based on **React, Redis, Go, MongoDB and RabbitMQ**
- Fully **dockerized** with simple-to-use deployment pipeline for **Kubernetes** cluster via **Helm Chart**
- Improved go implementation for **Source RCON Protocol** and built the RabbitMQ **channel recovery** mechanism for enhanced reliability

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 speech
- Analyzed properties of audio files using **Python** and integrated the app with **Flask backend**
- Helped design a chat-like interface with **Swift**

SafeBnB (Hack the North 2018)

- A web app that recommends Airbnb listings in Toronto based on how safe the area is
- Analyzed crimes and Airbnb datasets in **Python** to derive algorithms for calculating safety index
- Rapid prototyping with **Angular** and **Firebase**

CERTIFICATIONS

- AWS Certified Solutions Architect - Associate

EXTRACURRICULAR

The Forge (Innovation Factory)

- Member of Hamilton's **startup incubator**
- Joined a startup business which received tremendous guidance and mentorship