

Zain Khan

4A UNIVERSITY OF WATERLOO · COMPUTER ENGINEERING · WEB DEVELOPER · AI ENTHUSIAST

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Skills

Server-Side	Java / Spring, C / C++, Ruby / Rails, Node.js / Express
Client-Side	Javascript, React, React Native, Electron, Java, Redux / Mobx, Recompose / Saga, HTML5, LESS, SASS
Machine Learning	Python / Conda, Tensorflow, Keras, Matplotlib, Scikit-learn, Numpy, Pandas, Pybullet
Big Data	Hadoop, Spark, Kafka, Memcached
Tools	Docker, Nginx, Bash Scripting, Elasticsearch, AWS SQS, SNS, RDS, Redis, Google Big Query, Datastore, App Engine

Work Experience

Nvidia

Santa Clara, United States

FULL-STACK DEVELOPER

Aug. 2018 - Dec. 2018

- Implemented a containerized micro-service architecture utilizing **Ruby on Rails, React JS, and Docker clusters**, with an **Nginx load balancer**
- Independently managed devops of multiple Linux servers to ensure high-availability
- Re-factored 40% of the client-side codebase** to upgrade a critical component library
- Deployed a native Electron application designed for stress testing Nvidia GPUs for qualification on Windows OS

Taplytics Inc.

Toronto, Canada

FULL-STACK WEB DEVELOPER

Jan. 2018 - Apr. 2018

- Optimized a concurrent mobile push-notification delivery system by **124% in latency** and **50% in storage** by re-implementing the distributed design using Redis, SQS, SNS, and RDS
- Recovered a corrupt segmentation system for A/B testing using deep data analysis over BigQuery, SQL, and NoSQL databases;
Reduced data-inconsistency by 14% in a 2 month period
- Lead engineer in designing and developing a real-time, AI service capable of delivering on high-throughput, high-availability, and auto-scaling using **NodeJS**, Appengine, Datastore, **Postgres**, and **MongoDB**

Eyereturn Marketing

Toronto, Canada

JAVA BACKEND WEB DEVELOPER

May. 2017 - Aug. 2017

- Reduced latency of batched fetches of 11,000 production records on a concurrent **Java Spring** architecture by **10x** using Jackson / Hibernate
- Designed and *developed an automated e-mail delivery service* for mass e-mail distribution
- Visualized and identified processing latency bottlenecks within critical applications using Graphite, Grafana, and StatsD

Oracle

Toronto, Canada

JAVA BACKEND & FULL-STACK DEVELOPER

Sep. 2016 - Dec. 2016

- Developed core product APIs in a **Java** microservice and improved testing code coverage by 15% using Mockito, and Junit
- Redesigned 30% of a client facing CRM application using **React** and Redux / Stativus
- Initiated and led the adoption of **Big-data analytics** and visualizations of PoD performances with **Kibana and ElasticSearch**

Side Projects

Nvidia AI / Robotics Club (Quadruped Physical Robot)

MACHINE LEARNING DEVELOPER

- Mission: Develop a quadruped robot capable of agile locomotion through reinforcement learning in **Tensorflow, and Keras**
- Simulated the environment through **pybullet** and utilized a **Deep Q Network** to apply **Markov's Decision Process** for training the agent
- Implemented an object classifier using a fully-connected **Convolutional Neural Network (CNN)** for deterministic locomotive actions

NLP Sequence-to-Sequence Text Predictor

MACHINE LEARNING DEVELOPER

- Developed an NLP text predictor on a **stacked LSTM network** using the PTB dataset for word embeddings
- Utilized the Adam optimizer, categorical crossentropy loss function, and dropout technique to prevent overfitting

Movie Recommender System

MACHINE LEARNING DEVELOPER

- Used the Movielens 100K dataset to apply **content-based and collaborative filtering** using the **KNN algorithm**

Education

University of Waterloo

Waterloo, ON

B.ASC. IN COMPUTER ENGINEERING

Class of April, 2020

- Relevant courses: Distributed computing / big data, deep learning, databases, embedded software, OS systems, computer networking