# MICHAEL CAI

# 4A Electrical Engineer michaelcai.me | ykcai@edu.uwaterloo.ca | +1 (647)-529-7012

## SKILLS

- Languages: JavaScript, Python, HTML, CSS, SQL, Golang, C/C++, Java
- Tools & Frameworks: React/React-Native, Android SDK, IBM Bluemix, MySQL, Docker, Kubernetes, Git, Tensorflow

## **EXPERIENCE**

### **SOFTWARE CONSULTANT INTERN** | IBM CANADA LTD

Jan - May, Sept - Dec 2017 | Toronto, ON

- Led small team to develop an employee rewards application integrated with **IBM Blockchain**, first real demonstration utilizing blockchain at IBM Canada
- Created a RESTful API using JavaScript for integration with Hyperledger Fabric and Hyperledger Composer
- Reduced application production time by 70% by using React Native, leading to fast prototyping and simple structure
- Hosted presentations and meeting to help clients and senior executives make informed decision regarding blockchain
- Architectured end-to-end communications flow between NodeJS client backed, Slack, Bluemix Services and the mobile
  application

### AGILE SOFTWARE ENGINEERING INTERN | PIVOTAL LABS

May - Aug 2016 | Toronto, ON

- Developed the Lincoln/Ford Android app and boosted downloads by 30% and achieved a 4-star rating in the Play Store
- Improved application performance by implementing reactive programming with RxJava and RxAndroid
- Designed and developed with the Model-View-Presenter architecture and used Dagger for dependency injections

### AGILE AUTOMATION ENGINEERING INTERN | PIVOTAL LABS

Sept - Dec 2015 | Toronto, ON

- Developed automation tests for various Android applications using Espresso and logged with Pivotal Tracker and Jira
- Performed exploratory testing on mobile devices in an Agile/Extreme Programming environment

# **PROJECTS**

#### RIDEBUDDY

Jan 2018 - Present | Mobile Application

- Designed and developed a **Android** and **iOS** application for ride sharing targeting university carpool programs.
- Mobile application built with React-Native with integration to Facebook and Twilio interfaced with a Python server

#### **HANDWRITTEN**

April 2018 - Present | Machine Learning Project

- Designed neural networks using genetic algorithms with graph generation systems to recognize grayscale images of handwritten digits from MNIST data set
- Implemented a proof-of-concept two-layer convolutional neutral network trained using the Keras Sequential model interfaced with Tensorflow

#### INFOEXTRACT

Jan - May 2015 | Windows Application | Hydro One Inc.

- Proposed, developed and tested a Windows application that would enable users to extract data of a specific type and preform analysis on the data collection
- Made using C# for PSS/E Load Flow and PSS/E Harmonic Frequency Scanner Tool

## **EDUCATION**

#### SEPT 2014 - PRESENT | UNIVERSITY OF WATERLOO

- Bachelor of Applied Science in Electrical Engineering (GPA: 3.7/4.0)
- Relevant Courses: Data Structures and Algorithms, Computer and Communication Networks, Cooperative and Adaptive Algorithms, Operating Systems and Systems Programming