# MICHAEL CAI

4A Electrical Engineer

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## 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