

# MICHAEL CAI

3A Electrical Engineering

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## SKILLS

- Languages: **Java**, **JavaScript**, **C/C++**, **Objective-C**, **GO**, **Python**
- Tools & Frameworks: **Android SDK**, **IBM Bluemix**, **AWS**, **MySQL**, **RESTful API**, **Git**.

## EXPERIENCE

### MOBILE SOFTWARE ARCHITECTURE INTERN | IXM DIGITAL INNOVATION LAB, IBM CANADA LTD.

Jan - May 2017 | Toronto, ON

- Designed and architected an internal employee rewards mobile app using a cryptocurrency realized on **IBM Blockchain**
- Created and utilize a **REST** based JavaScript library for integration with **Hypderledger Fabric v0.6** chaincode. Implemented core Blockchain functionalities using **Go**
- Built a native mobile application and developed core application features and structure using **React Native** with integration of native platform modules on **iOS** and **Android** operating systems
- Developed a **NodeJS** backend for communications between **Slack**, **Bluemix Services** and the mobile application

### AGILE SOFTWARE ENGINEER | ENGINEERING, PIVOTAL LABS.

May - Aug 2016 | Toronto, ON

- Developed the **Ford** Android application and boosted app downloads by **30%** and achieved a **4-star** rating in the Play Store
- Improved network performance **2x** by implementing reactive programming practices with **RxJava** and **RxAndroid** and caching systems to reduce load on the main thread
- Designed and developed with the **Model-View-Presenter** architecture to separate business logic from Android and allow for the development different build variants
- Maintained the code base by designing **Robolectric** unit tests and used **Dagger** with **Mockito** to efficiently find dependency errors earlier in compile time

### AGILE AUTOMATION ENGINEER | EXPLORATORY TESTING TEAM, PIVOTAL LABS.

Sept - Dec 2015 | Toronto, ON

- Developed automation tests for various **Android** applications using Android Studio and Espresso
- Discovered defects/bugs and created detailed stories in **Pivotal Tracker** and **Jira**
- Interacted with engineers in performing automated testing and in developing testing tools
- Performed smoke, functional and regression testing on QA, CERT, Sandbox, UAT and PROD environments
- Performed exploratory testing on mobile devices in an **Agile/Extreme Programming** environment

## PROJECT EXPERIENCE

### VRESISTOR

Aug 2017 - Present | Android/iOS Application

- Developed an **Android** and **iOS** application that can identify the resistance of a resistor from a picture of the resistor by using image processing and machinery learning developed in **Python**

### DIYPC

July 2017 - Present | Hybrid Mobile Application

- Designed and built a **cross-platform** that can let new PC enthusiasts create and configure their own desktop computer
- Utilized **React-Native** and **PCPartPicker API** with a **Python** backend to obtain and display data and graphics on a beautiful **material design** interface

### INFOEXTRACT

Jan - May 2015 | Independent Project | Hydro One Inc.

- Proposed, developed and tested a Windows application that would enable user 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: 3.4/4)