

**Tao (Michael) Ma** (he/him) **Electrical and Computer Engineering Student**  
taoma0606@gmail.com | 343.364.5768 | LinkedIn.com/in/taomamichael | michaeltaoma.github.io

---

## TECHNICAL SKILLS

---

### Programming

- Java
- Python

### Software Tools

- Git
- Vim
- Microsoft Office
- PyCharm
- IntelliJ IDEA

### Frameworks/Platforms

- Spring Boot
- TensorFlow
- PyTorch

## EDUCATION

---

University of British Columbia Expected Apr, 2023  
*Master of Engineering - Electrical and Computer Engineering*

Queen's University 2017 - 2021  
*Bachelor of Computing - Specialization in Computer Science*

Certification: TensorFlow in Practice 2020

## TECHNICAL WORK EXPERIENCE

---

BAM Lab, Queen's University, Kingston, Ontario Sep, 2020 – Sep, 2021  
*Undergraduate Research Assistant, Supervised by Prof. Farhana Zulkernine*

- Reviewed and presented to lab faculties 20 research papers to assist faculties to comprehend relevant works on text summarization.
- Retrieved millions of UMLS concepts from UMLS Rest API by programming multithreading Python script to assist correcting misspelled medical terms in chat summarization data, accuracy of the spell correction increased by 5%.
- Implemented medical chat summarization pipeline using Python, TensorFlow and MetaMap to enhance the service quality of remote medical advising system.
- Developed qualify academic writing skill while writing the journal paper based on our study on text summarization.

Lingnan Pass Co., Guangzhou, Guangdong, China Feb, 2021 – Jun, 2021  
*Software Engineer Intern*

- Cooperated with co-workers to implement and integrate 5 new functionalities of electronic traffic cards to the original Java Spring Boot based physical traffic cards management system to fulfill emerging customer needs.
- Restored thousands of lost transaction records by inspecting the problem and programming daily periodical tasks in Java to report transactions initiated through various transportation means to bank systems in one week.
- Implemented more than 5 front-end requirements by programming Java, HTML, Javascript in existing management system in the speed of one requirement per week.

## TECHNICAL PROJECTS

---

### **Intelligent Doctor**, Sinovation Ventures

**Jun, 2021 – Aug, 2021**

- Spearheaded the development and training of a reinforcement learning agent to accurately predicting morphine usages with 99% similarity with real physicians' action using PyTorch with MIMICIV dataset.
- Collaborated with team members to integrate and deploy a medical advising system that can generate clinical note given CT images and recommend morphine usages given patients' status using Python and TorchServe, achieving 2<sup>nd</sup> place out of 39 teams in the final.
- Developed exceptional presentation skills while introducing logic of morphine usages recommended of our system to 200 competitors and professional practitioners.

### **Grad School Application Information System (Personal Project)**

**Mar, 2021 – May, 2021**

- Realized more than 10 stored procedures according to system needs by programming SQL to provide access to data to external software.
- Developed and launched a website utilizing Spring Boot, CSS, HTML, and Heroku – enabling users to examine or contribute information about applicants to graduate programs and their application results, allowing students to get a sense of which programs they may be eligible.

### **Animal Rescuing System**, Queen's University

**Jan, 2020 – Apr, 2020**

- Designed and implemented the database structure by using ER Diagrams and programming SQL to provide robust storage for the animal rescuing system, owned and managed all changes to the data models.
- Collaborated with team members to implement and deploy the system that deliver animal rescuing related functionalities using PHP and Bootstrap.

## OTHER WORK EXPERIENCE

---

### **EIC Education**, Guangzhou, Guangdong, China **Assistant Instructor**

**May, 2019 – Sep, 2019**

- Established excellent teaching skills while lecturing multiple classes of more than 15 students on the topic of verbal English and study oversea.
- Developed adaptive verbal communication skills while organizing and engaging summer camp for 40 students of various ages.

## AWARDS

---

Dean's Honour List

**2020**

## INTERESTS & ACTIVITIES

---

- Soccer, badminton, hiking
- Cooking, reading, comedy movies, video games