

# Zackary Ren

✉ renzackary@gmail.com ☎ 647-978-0682 in zack-ren 🌐 zack-ren

## SKILLS

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**Programming Languages:** C/C++ (3 years), Java (4+ years), Python (3 years), SQL, Scala, Go

**Tools, Technologies and Methodologies:** Spring, Docker, Jenkins, Splunk, Git, Unix, Linux, Cloud (AWS, Azure, GCP), SDLC, Agile Methodology, CI/CD Testing, Requirements Gathering and Analysis

**Certifications:** AWS Certified Cloud Practitioner - 2022

## EXPERIENCE

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### Software Engineer Co-op

May 2022 – Aug. 2022

Capital One

Toronto, Ontario

- Developed new endpoint in Java Spring to collect Canada-wide user feedback for 10,000+ messages monthly
- Designed and implemented REST APIs enabling user dismissal and expiry of messages, greatly enhancing customer experience for thousands of monthly active users
- Improved codebase maintainability and reduced code duplication by 18%+ by refactoring version 2 of backend APIs
- Maintained JUnit and ATDD tests to support new endpoints whilst ensuring code coverage of >80%

**Languages/Tools:** AWS, Java, Jenkins, Spring, Docker, Ruby (Cucumber), Splunk

### Software Engineer Co-op

May 2021 – Nov. 2021

ChipCare

Toronto, Ontario

- Optimized Python routines, resulting in 50% shorter workflow duration, by reducing algorithm time complexity
- Automated parameter tuning for event detection and tracking pipeline, resulting in 16% more true positive matches
- Architected a custom Python library for PoC testing device, saving the assay team 2+ hours on each workflow test
- Verified a 30% improvement in accuracy of vision pipeline performance by comparing bead events and tracks events to deprecated frameworks via Python scripts

**Languages/Tools:** Python - (pandas, NumPy, Matplotlib), C++

### Software Engineer Co-op

May 2020 – Aug. 2020

Coveo

Montreal, Quebec

- Collaborated with ML team (user profiling sub-team) to develop and ship features for SaaS search engine
- Implemented initial ML Config Service API framework for Profile Dynamic Configuration project
- Introduced a new dimension for Profile Streaming and performed end-to-end validation
- Updated default behaviour of models to use on-demand dimensions only and automated the insertion of on-demand orgs in DynamoDB with Bash script

**Languages/Tools:** AWS - (DynamoDB, EC2, S3), Java, Scala, Spark, Swagger

## PROJECTS

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### Veritech | Python, React, Azure, Django

Nov. 2019 – Feb. 2020

- Agorize: AI for Societal Impact Challenge (Top 26 of 147 teams) – Political stance detection of news articles
- Performed data cleaning and pre-processing of raw data with NLTK, pandas and scikit-learn
- Led development of a NLP text classification model for determining political bias of news articles with 72% accuracy

### Grapht.ai | GCP, Python, React, Node.js, MongoDB

Jan. 2020

- Integrated skin graft classification model with web app to create platform for identifying skin diseases
- Built image classification model from scratch with Keras, able to correctly classify skin lesions with 83% accuracy
- Refined classification model using GCP AutoML Vision to improve classification accuracy to 94%

### Image Filtering | C

Nov. 2019

- Parsed input/output .ppm image and convolution kernel to apply image filtering techniques: Edge Detection, Sharpen, Blur

## EDUCATION

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### McMaster University

Sept. 2018 – Dec. 2023

B.Eng. BME – Software and Biomedical Engineering – (3.9/4.0 GPA)

Hamilton, Ontario

Courses: Data Structures & Algorithms, Concurrent System Design, Databases, Computer Networks & Security, Principles of Programming, Linear Optimization, Introduction to Machine Learning