

# HARSHIL MODI

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## SUMMARY

- Software & Biomedical Engineering student experienced in many languages using **linux** and **windows** platform
- Foundation in scripting, **workflow automation**, testing and **back-end development**
- Working knowledge of machine vision, machine learning, neural networks, and reinforcement learning

## EDUCATION

McMaster Universtiy · Sept. 2017 to Current

Bachelor of Software and Biomedical Engineering Co-op, GPA: 3.9/4.0

Courses: Data Structures & Algorithms, principles of programming Java and Discrete Mathematics

Activities: Artificial Intelligence Society, McMaster Competitive Programming Club, Hindu Student Association

Awards: McMaster University President's Award, Pollock Family Grant Award, McMaster Dean's List

## EMPLOYMENT

Fortran Traffic Systems Limited

Full Stack Developer Intern · Apr. 2019 to Aug. 2019 · Toronto, ON

- Optimized, refracted, and converted **100+ XML** files to **protocol buffer** files leading to a 60% reduction in transfer time
- Developed multiple **TCP** kernel modules to increase client server throughput
- Implemented web application using **Python-Flask** and MongoDB for real-time simulation of 50+ traffic intersections
- Designed a proof of concept **mobile application** using **Dart** and **Google Firebase** that provides live traffic updates

**Languages/Tools:** Python, Flask, C++, NodeJs, Dart, Firebase, MongoDB

Sunnybrook Health Sciences Centre

Software Engineering Intern · May 2018 to Aug. 2018 · Toronto, ON

- Individually developed software for identifying cancerous cells; Awarded publication in **Biology Open Journal**
- Built shell scripts to automate data analysis and improve processing time by **30%**
- Implemented a cell identification classifier using **OpenCV** and **NLTK** with **85%** accuracy

**Languages/Tools:** Groovy, QuPath, Bash, OpenCV, NLTK

Chat Automate (Startup)

Software Developer · Nov. 2017 to Apr. 2019 · Toronto, ON

- Designed and productionized companies **first voice recognition chatbot** resulting in **\$25,000 a year** in revenue
- Developed databases, stored procedure, reports, and data entries to SQL servers
- Created company website which directly increased client base by **60%** and sponsorship by **20%**

**Languages/Tools:** Python, TensorFlow, NLTK, Textblob, MySQL, NodeJs, CSS, HTML5

## PROJECTS

Twitter Fake News Tracker

- Virtual representation of fake news proliferation across Twitter using directed graphing & traversal algorithms
- Implemented **Hybrid Bellman-Ford-Dijkstra algorithm** to improve run time bound

**Languages/Tools:** Java, Python, MongoDB

Image Recreation with Genetic Algorithm

- Developed algorithm to generate identical images from random pixels using natural selection
- Implemented an **exponentially decaying adaptive learning rate** to increase accuracy by 12%

**Languages/Tools:** C, Bash

## SKILLS

**LANGUAGES:** python, C++, C, Java, JavaScript, Dart, SQL, Django, NodeJs, Flask