# Edward Leung

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## EDUCATION

**YORK UNIVERSITY**

*Honours Bachelor of Engineering, Computer Engineering* *Expected Spring 2022*

*Current CGPA: 3.3/4.0*

## PROFESSIONAL EXPERIENCE

**APPLICATION DEVELOPER INTERN**

*Bank of Montreal Financial Group* *May 2020 – December 2020*

- Worked apart of the Direct Electronic Funds Transfer team, responsible for low value high volume payments of corporate clients
- Designed and implemented new features on a Java based desktop application used to manage users and permissions on a mainframe
- Worked collaboratively with QA to complete regression testing on upgrades to the electronic funds system
- Interacted with technology stakeholders to define, analyze, and deliver requirements that reflect the needs of both the business and end-customers

**CHANGE AND PROBLEM PROCESS ANALYST INTERN**

*Bank of Montreal Financial Group* *May 2019 – August 2019*

- Ensured daily activities are applied and completed as required by the BMO ITIL Process with the use of ServiceNow
- Preformed Change and Problem governance on the respective ITIL Processes to ensure performance, compliance, value and quality
- Identified and detected (Incidents, Configuration Items affected, Changes, Problems and Conflicts) to reduce the impact to customer service
- Participated in team communication ensuring activities are implemented according to ITIL Process Standards

## EXTRACURRICULARS AND RELATED PROJECTS

**IBM QISKIT GLOBAL SUMMER SCHOOL** *July 2020*

- A two-week summer school designed to cover the basics of Quantum Computing with a focus on Superconducting Devices and Quantum Chemistry Applications
- Daily lab sessions included simulations of Grover's Algorithm, Quantum Teleportation, Quantum Fourier Transform, Shor's Algorithm, Error Mitigation using Repetition Codes, as well as a simulation of a LiH molecule

**IBM QUANTUM CHALLENGE** *May 2020*

- Manipulating Qubits into Bell and GHZ states and interpreting its results on a real noisy quantum computer
- A simulation of the BB84 protocol, an application of a Quantum computer to encrypt and decrypt messages between two parties
- Approximated a unitary using only U3 and CX gates with a focus on cost and accuracy resulting in a total cost of 310
- Solution of unitary resulted in 375$^{th}$ place out of the total 1745 participants

**COKE-PEPSI CLASSIFIER** *May 2020*

- Using a pre-trained convolution neural network model, ResNet-34, to create a classifier used to determine between Coca-Cola and Pepsi related images taken from Google Images
- Manually cleaning and transforming images to create a deeper and richer dataset to improve classification
- Trained the classifier with varying learning rates to minimizing errors in the validation set whilst maximizing the accuracy of the model, resulting in an accuracy in the testing set of 97.2%

**MOTION ACTIVIATED SOAP DISPENSER** *March 2020*

- Developed a C program using MCUXpresso for the LPC804 microcontroller, utilizing internal clocks and system interrupts to communicate with a 7-segment display, servo motor, ultrasonic sensor, and push button
- Communication between microcontroller and peripherals use protocols such as GPIO, PWM and internal timers such as System Tick, Multi-rate, and Self-Wake-up
- Designed and created for an embedded systems course, received a final grade of A+

**TITANIC SURVIVAL PREDICTOR**

*Kaggle* *December 2019*

- Applying factors such as age, sex, and fare type of passengers who had survived the disaster to train a logistic regression model using the scikit-learn library
- Using the trained model to predict if a passenger would survive based on the same factors; scored a 77.5% accuracy rating based on Kaggle's scoring system

**ELECTRICAL ENGINEERING AND COMPUTER SCIENCE TEAM**

*York University Robotics Society* *September 2018 – December 2018*

- Communicated with others to manage and design deliverables and due dates
- Worked as part of a large team (20 members) to design the rover's electrical systems and software (i.e. managing circuitry and connecting them to parts of the rover's drive and controller systems)

## TECHNICAL SKILLS

**Operating Systems:** Windows, Linux
**Languages**: Java, C, Python, Octave/MATLAB, Q#, COBOL
**Hardware:** Circuitry, Oscilloscopes, Function Generators, General Lab Equipment, Quartus, Verilog, Digital Logic Design
**Tools:** Jupyter Notebook, Microsoft Office Suite, Qiskit, Unix Terminal, GitHub, Slack, Eclipse