Catherine **Chen**

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Education _____

McMaster University   Class of 2022

Candidate B.Eng in Software Engineering (Co-op), Cumulative GPA (3.7/4.0)

Courses: *Principles of Programming • Discrete Mathematics • Data Structures and Algorithms • Digital Systems*

Skills Summary _____

Programming Languages: C, Python, Java, MATLAB, HTML, CSS, JavaScript, Verilog
Tools: AutoCAD, Adobe Photoshop, NetBeans, Quartus

Extracurricular Experience _____

McMaster Sumobots *– Advanced Competition*   *Sept. 2019 - Present*
- Designed, programmed, and built an autonomous robot to battle with other robots within a specified ring
- Implemented ultrasonic sensors, line sensors, and motor drivers in an Arduino microcontroller

McMaster Hyperloop Team *– Software Team*   *May 2019 - Present*
- Working on off-board long distance communications with HC-12 and I2C between the input/outputs of Arduino Nanos and Raspberry Pi
- Conducted research on the implementation of physical models and sensors
- Documented results in precise reports and presented findings to the team

Computer and Robotics Club *- Head Leader*   *Sept. 2017 - June 2018*
- Trained and mentored students with Java programming by planning workshops and 1:1 sessions
- Prepared club members for programming contests (Waterloo CCC contest, York ECOO contest)
- Lead a group of children for the Hour of Code program to introduce them to computer science

Projects _____

YJB – Customer Feedback Data Visualization Web App *– YHack, Yale University*   *Oct. 2019*
- Developed an interactive web application in JavaScript to visualize positive/negative sentiment data collected from Twitter using Google Natural Language API and machine learning (LDA topic modeling)
- Performed test mining and implemented a feature that generated word clouds to identify frequently occurring subjects and proposed state target goals to improve customer feedback for JetBlue Airways

Web Developer for Heart Lake Orthodontics   *July 2019 – Aug 2019*
- Developed a customized responsive website using HTML and CSS along with WordPress to help a professional business succeed in attaining their goals [https://www.heartlakeorthodontics.com]
- Enhanced Search Engine Optimization and learned how to improve, troubleshoot and debug code

Artificial 3D Hand Gear   *Jan. 2019 – May 2019*
- Planned, designed, modelled and developed an artificial hand gear mechanism through mathematical calculations and using Autodesk Inventor.
- Learned how to 3D sketch, model and print using AutoCAD & gained collaboration and reliability skills throughout the project period and completing milestones on time.

Awards _____

Google Hashcode Competition *– 2nd at McMaster*   *Feb. 2019*
- Programmed a solution to sort photos systematically based on related tags using Python
- Came in 2nd place at McMaster University

Dean's Honour List   *April 2019*
- Earned a GPA of higher than 9.5/12