

# Cherry Zhang

[Email](#)

[Website](#)

[Github](#)

[Blog](#)

## EDUCATION

---

**University of Waterloo** – Candidate for BaSc. in Mechatronics Engineering with an Option in Management Sciences (2019)

- Cumulative Average – 91.2%
- Engineering Dean's List – Ranked 4<sup>th</sup> out of over 135 students

## SKILLS

---

### Software

- Work Experience: Android (Java), Windows (C#), iOS (Swift), MATLAB
- Project Experience: Python, C++, C, Assembly, Github
- Basic Experience: iOS (Objective-C), HTML, CSS, JS, Arduino, Raspberry Pi, VBA

### Computer Aided Design

- Basic AutoCAD and SOLIDWORKS

### Languages

- Fluent in English; Intermediate Japanese; Basic Chinese and French

### Other

- Research, Technical Writing, Latex

## WORK & RESEARCH EXPERIENCE

---

### Research Assistant - Prof. McKay (Management Sciences) (January 2014 – Current)

- Android Development: independently developed a mobile Android app to assist the rehabilitation of people who have suffered a specific type of stroke (reading disorder – pure alexia)
- Literature Review: summarized known literature of rehabilitative techniques of pure alexia and their efficacies (15 pages)
- Software Documentation: responsible for the full software life cycle, including functional specifications, design specifications, code development, testing, user manual, validation with stroke patient (documentation exceeded 150 pages)
- Research: Continuing the work with Professor McKay (planning to publish)

### Microsoft - Software Engineering Intern (November 2014 – December 2014)

- Algorithms and Data Structures: designed and implemented algorithms and data structures for generating suggested content in the form of mini photo albums from the user's device's photo album based on the metadata of each photo
- Custom UI/UX Features on Mobile App: Improved the UI and UX experience on the Android client application, creating custom gestures features, animations, UI elements, etc

### Microsoft - Software Engineering Intern (May 2015-August 2015)

- End-to-End Mobile Software Development: independent developer of the Windows 10 version of Office Lens, an image processing app that can scan documents, whiteboards, etc. on your mobile device with real-time edge detection
- Feature Development: camera and orientation sensor integration, UI, image processing library integration, testing/optimization of image-processing and real-time edge detection speeds, concurrency, memory optimization and management, image encoding/decoding, OneNote API service integration, fixing bugs, etc.

### **Research Assistant - Prof. McKay (Management Sciences) (May 2016 – Current)**

- iOS Development/Mental Health Research: started new project with Dr. Marsha Linehan of the University of Washington and the Linehan Institute
  - Creating a software application that is used alongside traditional dialectical behavioral therapy (DBT - used to treat people with various mental health illnesses) on iOS

### **Research Assistant – Prof. Smith (Electrical & Computer Engineering) (September 2016 - Current)**

- Research: Researching on developing both a heuristic and MIP coverage path-planning algorithm for UAVs and an optimal image resolution controller (planning to publish)
- Mathematics Learned: Optimization, Clustering algorithms, Mathematical proofs, Greedy algorithms, Integer Programming, Graph theory (TSP problems), Optics
- Simulations: Using MATLAB and shell scripts to simulate the UAV path traversal

### **SIDE PROJECTS (FULL LIST ON MY WEBSITE)**

---

- **RAND Research (November 2016 – April 2017)**
  - Co-author and part-time research intern on analyzing and writing literature reviews on various policing strategies (e.g. focused deterrence, hot spots policing, etc.)
- **Machine Learning** (Stanford Online/Coursera)
  - Completed machine learning course (certificate of completion is [here](#))
  - Worked on course projects including: recipe recommender, predicting survival on Titanic, digit recognition with neural network (MNIST dataset)
- **AI for Robotics Course** (CS 373 from Georgia Tech/Udacity) (Ongoing)
  - Learned: Monte Carlo Localization, Kalman Filters
  - Will Learn: Particle Filters, Search, PID Control, and SLAM
- **Hackathons**
  - Diagnostic and rehabilitative app for foot/gait problems (using a sock with pressure sensors and accelerometers, and a Pebble Watch) (PennApps 2015)
  - Multi-platform Android fitness application (ChromeCast/Android TV, Mobile, and Wear) (Finalists at JPHacks 2014)
  - Bluetooth chat system that prevents harassment on Japanese trains (Top 5 in Japan TechCrunch 2014)

### **EXTRACURRICULARS & VOLUNTEERING**

---

- Mentor at hackathons and an ideathon (DMTC and Microsoft – Fall 2014, Summer 2015)
- Volunteer at Engineering and Robotics Outreach Events (RoboGals & UW - Winter 2014, Summer & Fall 2015)
- Self-Directed Learning in a variety of topics in mathematics and computer science from online courses

### **AWARDS**

---

- 2015 President's Research Award (undergraduate research award)
- 2014 International Experience Award (international internship award)
- 2013 President's Scholarship of Distinction (academic award)
- 2013 Dr. B. Mabel Dunham Award (highest average in high school among females)
- 2011 Business/Entrepreneurship Award (for computer science studies)
- 2011 Gold Medal in Waterloo Science and Engineering Fair for Biotechnology