Cherry Zhang

Email Website Github Blog
+1 519-635-3198
626 Pine Island Cres. N2V1T4 Waterloo, ON, Canada

EDUCATION

University of Waterloo – Candidate for Bachelor's in Mechatronics Engineering, Option in Management Sciences (2019)

- Cumulative Average – 91.2%
- Engineering Dean's List (since 2014)
- Class Representative (Winter 2017)

SKILLS

Software

- Work Experience: Android (Java), Windows (C#), iOS (Swift), ASP.NET, Angular, 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

Research

- Path planning, Optimization, Health Informatics

RESEARCH EXPERIENCE

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

- 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
- Software Lifecycle: responsible for the full software life cycle, including functional specification, design specification, code development, testing, user manual, validation with stroke patient

Research in Mental Health and Health Informatics (May 2016 – Current)

- iOS Development: Creating an iOS application that is to be used alongside traditional dialectical behavioral therapy (DBT – used to treat people with various mental illnesses)
- Mental Health Research: researched history of DBT, current DBT practices, and practiced DBT to understand and be able to develop an effective companion iOS app. Partnered with the founder of DBT, Dr. Marsha Linehan at the University of Washington.

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

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

RAND Research (November 2016 – April 2017)

- Research: Coauthored and wrote literature reviews on various policing strategies (e.g. focused deterrence, community policing, legitimacy policing, etc.)
- Team Collaboration: Participated in multiple meetings with RAND employees and policing experts

WORK EXPERIENCE

Microsoft - Software Engineering Intern (September 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.

Oculys Health – Web Development and Data Analytics Intern (September 2017-December 2017)

- Full-stack Web Development: independently prototyping a web application (RavenDB, ASP.NET and Angular) that aids in collecting data for Oculys' predictive learning algorithms
- Predictive Learning Modelling: learning and utilizing a variety of algorithms to create predictive learning models including simulated annealing, taboo search, genetic algorithms, clustering, and agent-based simulation, and developing these models in the R programming language

EXTRACURRICULARS

Machine Learning (Stanford/Coursera)

- Completed machine learning course (certificate of completion is here)
- Several projects including: recipe recommender, predicting survival on Titanic, digit recognition with neural network (MNIST dataset)

Hackathons

- Bluetooth chat system that prevents harassment on Japanese trains (Top 5 in Japan TechCrunch 2014)
- Multi-platform Android fitness application (ChromeCast/Android TV, Mobile, and Wear) (Top 6 in JPHacks 2014)

Volunteering

- Homework helper for Syrian refugee students at CJI (October 2017 – ongoing)
- Leader of Gundam Amino, an online community with 1800+ members and ~178 daily active members (March 2017 – ongoing)
- Mentor at hackathons and an ideathon (DMTC & Microsoft – Fall 2014, Summer 2015)
- Engineering and Robotics Outreach (RoboGals & UW - Winter 2014, Summer & Fall 2015)

AWARDS

- 2015 President's Research Award (undergraduate research award)
- 2014 International Experience Award (international internship award)
- 2013 President's Scholarship of Distinction (academic excellence 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