

# ANDY REN

## Computer Engineering at University of Waterloo

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## EXPERIENCE

### Software Developer

#### VirtaMove

September 2019 – December 2019      Kanata, Canada

- Built a robust internal test framework for VirtaMove using **Python** and **Robot Framework**, via the implementation of automation scripts that executed release-critical manual tests, increasing software testing and verification efficiency by up to **50%**
- Developed custom error handling implementations in **C++** to resolve V-Migrate installation and run-time related registry bugs using the **Windows API** and **WiX Toolset**
- Redesigned the algorithm for migration agent identifier generation, enabling V-Maestro to communicate with previously linked agents after a system reboot, which improved scalability
- Prototyped a new product activation GUI for migration licensing using **C#**, **.NET Core**, and **C++**

### Web Analyst

#### Agriculture and Agri-Food Canada (AAFC)

January 2019 – April 2019      Ottawa, Canada

- Developed innovative web solutions using **JavaScript**, **HTML** and **CSS** for intra-departmental clients on the AAFC **SharePoint** platform
- Constructed string search/scrape methods in **PowerShell** with use of the **SharePoint API** to increase functionality for scripts that generated reports on departmental **SharePoint** usage statistics
- Communicated with clients regularly to build practical, maintainable solutions and ensured that sensitive information was properly handled per the **Access to Information Act** and **Privacy Act**

## PROJECTS

### helper-goose

github.com/ren-andy/helper-goose

December 2019

- Built a **Python** Reddit bot that responds to posts found on the **/r/uwaterloo** subreddit with kind messages or comments containing relevant information obtained via the **UWaterloo API** (e.g course codes, weather, etc)

### CareerCounsel

github.com/ren-andy/cuhacking-app

February 2019

CUHacking 2019

- Developed a **React** web application for CUHacking 2019 coupled with an **Express.js** backend that retrieves **Indeed** and **Github** job postings based on user inputted search parameters, and classifies them by levels of education and experience

## SUMMARY

- Professional experience in **C++**, **Python**, **C#** and **JavaScript**
- Practical experience in **RISC-V assembly**, **VHDL**, and programming **Arduino**-like micro-controllers
- Interest in embedded systems, healthcare, biotechnology, and Internet of Things

## SKILLS

### Languages

C++ Python C JavaScript C#  
PowerShell VHDL

### Frameworks and Tools

Robot Framework .NET Core Git  
Node.js Arduino SharePoint

## ACTIVITIES AND SOCIETIES

### Engineering Student Councilor

Elected to advocate for and represent the interests of Faculty of Engineering students at the **WUSA Student Council**

### Lifelong Musician

Played **Piano**, **Alto Saxophone**, and **Mallet Percussion** throughout primary and high school

## EDUCATION

### Candidate for BASc, Computer Engineering

#### University of Waterloo

September 2018– Present

- Expected Graduation – May 2023
- Relevant Courses:
  - ECE 250 - Algorithms and Data Structures
  - ECE 222 - Digital Computers
  - ECE 124 - Digital Circuits and Systems