

# ANDY REN

## Computer Engineering at University of Waterloo

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🐙 github.com/ren-andy

## 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