

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

home-monitor

github.com/ren-andy/home-monitor

August 2020

- Built a home monitoring embedded system using a **Raspberry Pi 3B+** and **C++**, which performed actions ranging from detecting and making alerts of nearby intruder movement, reading and displaying temperature and humidity, and playing music.

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 MATLAB
JavaScript C# RISC-V VHDL

Frameworks and Tools

Robot Framework .NET Core Git
Node.js Raspberry Pi Arduino

ACTIVITIES AND SOCIETIES

ECE Society VP Academic

Chosen to advocate for and represent the academic interests of **ECE** students at the **Engineering Society** and **ECE** department level

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 224 - Embedded Microprocessor Systems
 - ECE 252 - Systems Programming and Concurrency