Aidan Clyens

Computer Engineering, University of Waterloo
azclyens@edu.uwaterloo.ca, 519-216-8647
aidanclyens88.github.io

Summary

- Prototyped embedded RFID reader devices using Arduino microcontrollers and C++ programming
- Designed the setup for a wireless personal area network of RFID reader nodes using RF devices
- Learning C programming on Altera NOIS II embedded processor and ARM Cortex-M3 systems
- Developed various data structure classes using C++
- Used Python and the OpenCV library to make a simple digit recognition program

Qualifications

Experience using the following:

- C/C++, Java, Python, HTML/CSS, JavaScript, PHP/SQL, and VHDL languages
- Git, GitHub/GitLab, Eclipse, Microsoft Visual Studio, Android Studio, GCC, MATLAB, Quartus Prime, and µVision IDEs and tools
- Windows, Linux, Arduino, Raspberry Pi, Altera FPGA, ARM Cortex-M3 operating systems and platforms

Education

Candidate for B.A.Sc., Computer Engineering

University of Waterloo, Waterloo, ON
(Sep. 2016 – Apr. 2021)

Relevant Courses:

- Algorithms and Data Structures, Digital Computers, Embedded Microprocessor Systems, Operating Systems and Systems Programming

Volunteer Work

Engineering Orientation Leader (Sep. 2018)

University of Waterloo

Volunteered as an Engineering Orientation Leader for the incoming class of 2023, learning valuable leadership skills.

Work Experience

Engineering PC Network Hardware/Software Assistant

(Sep. – Dec. 2017, May – Aug. 2018)

University of Waterloo Engineering Computing, Waterloo, ON

Contributed to the design and development of a student machine shop safety system for the Faculty of Engineering, involving a series of RFID student card reader embedded devices set up in a wireless personal area network. Programmed Arduino microcontrollers using C++ and did Python programming on a Raspberry Pi for data processing. Designed printed circuit boards using Autodesk Eagle. Prototyped and tested various hardware and software designs to demonstrate to faculty staff members. Other tasks included computer and network maintenance and working at the IT support service desk.

Product Owner (Jan. – Apr. 2017)

DataKinetics, Ltd., Ottawa, ON

Used PHP and MySQL to develop an online interactive voice response system used for customer support for a company product. Used the Twilio API to handle incoming phone calls and make outgoing phone calls, while storing user information and message data in a MySQL database. Produced software documentation and demonstrated to other team members.

Projects

Arduino Data Structures

Used C++ to make classes for various data structures that are compatible for use with Arduino microcontrollers. Based off my previous Algorithms and Data Structures course.

Python Scripts

Developed a digit recognition program using the OpenCV library, and a Breakout clone using the PyGame library for practice scripting with Python.

Personal Web Site

Used HTML, CSS and JavaScript, to design a web site highlighting my qualifications, projects and work experience. More information about these projects and work experience are found there.