Aidan Clyens

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Summary

- Prototyped embedded RFID reader devices utilizing Arduino microcontrollers and wireless radio modules
- Built an interactive voice response system based on PHP and using a MySQL database
- Designed a personal web site using HTML, CSS, and JavaScript
- Learning embedded systems programming on Altera NOIS II embedded processor and ARM Cortex-M3 systems using C
- Developed various data structure classes using C++ for personal use

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

Computer Engineering, Honours

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

- Candidate for Bachelor of Applied Science
- Relevant Courses: Algorithms and Data Structures, Embedded Microprocessor Systems, Operating Systems and Systems Programming

Volunteer Work

Engineering Orientation Leader

University of Waterloo
(Sep. 2018)

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

Work Experience

Engineering PC Network Hardware/Software Assistant

University of Waterloo Engineering Computing, Waterloo, ON
(Sep. – Dec. 2017, May – Aug. 2018)

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 scripting on a Raspberry Pi for serial 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

DataKinetics, Ltd., Ottawa, ON
(Jan. – Apr. 2017)

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, such as vector, linked list, queue, and hash table classes. Based off my previous Algorithms and Data Structures course.

Python Scripts

Experimented with Python scripting by developing a digit recognition program using the OpenCV library, and a clone of the game Breakout using the PyGame library.

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.