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EDUCATION

University of Michigan / Coursera **August, 2019 – Present**
***Specialization*:** Applied Data Science with Python (Certificate Track)
Coursework: *Pandas,* Text Mining, Data Visualization, Machine Learning

University of British Columbia **September, 2014 – May, 2019**
Major: *Bachelor of Applied Science - Electrical Engineering;*
***Coursework*:** Structures and Algorithms, Computer Communications, Computer Architecture, Signal Processing, Digital Design

WORK EXPERIENCE

UBC - Centre for Teaching, Learning, and Technology **September, 2017 – May, 2018**
Course Migration Automation and Support
Link: https://github.com/alchammatg/connect-canvas-migration-scripts
- Proposed the idea, then voluntarily automated migration of courses through the **Canvas LMS API** using Python (tasks include file to wiki conversion, html modification, and restructuring hyperlinks), cutting down course migration time from 6 to 2 hours.
- Designed and developed a **Tk GUI** which allowed other users to migrate over a thousand courses using the scripts.
- Migrated and formatted web content for 200 courses, and supported faculty members in learning the new interface.
- Built multiple surveys with **branch-logic in Qualtrics** that were published by Faculty of Education.

TECHNICAL PROJECTS

Trading Analysis Web Application **Present**
Link: https://github.com/alchammatg/fullstack-finalysis
- Implementing a **Model-View-Template** backend using **Django** to retrieve market data from a local **SQL** server and return pages stocked with currency-pair data**.**
- Designing an **object-oriented** architecture to dynamically control data acquisition from third party **APIs**.
- Planning to build a frontend where users can markup stock charts and save their analysis.

Visual Sorting Algorithms **September, 2019**
Link: http://alchammatg.github.io/visual-sorting-algorithms
- Animated multiple sorting algorithms in sync using **generator functions** and **animation frames** in **Javascript**.
- Designed and built a simple UI showing various sorting algorithms and inputs to control the animation.

IoT Gateway Development (UBC Capstone) **September, 2018 – April, 2019**
- Upgraded a **Python**-based IoT Data Exporter which is part of a client's iEMS by developing and integrating a **Qt GUI**, **asynchronous** HTTP retry queue, automation through the client's **RESTful API**, and an installation file.
- Emulated end-user sites by running local **MS SQL** servers to generate data and analyze performance.
- Collaborated with four teammates on all phases of the project with help of tools including **GitHub and Travis CI.**
- Wrote initial requirements, design, and testing documents based on meetings with the client, and flexibly changed the documents and workflow as the client's needs changed.

Haptic Interface Robot (ELEC 391 - Design Studio) **January, 2017 – April, 2017**
- Designed and brought up two types of printed circuit boards using Altium Designer: one for sensing position using an optical slot detector, and one for outputting power to actuators through an H-bridge
- Programmed the real-time behavior of an Arduino microcontroller to use position measurements to compute and realize the desired behavior of two linear actuators, and interfaced with Matlab using SPI.
- Integrated the contributions of four group members to produce a robust product and supporting documentation which fulfilled all requirements and received an "A" in class (ELEC 391)

SKILLS

- Python: (OOP, database operations, concurrency, threading, GUI, data science), C, Java, Javascript, HTML, CSS
- SSH, Debugging, GIT, Agile