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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
Repository: https://github.com/alchammatg/connect-canvas-migration-scripts

- Voluntarily automated migration of courses through the **Canvas LMS API** using **Python**, cutting down course migration time from 6 to 2 hours (tasks include file conversion, html modification, and hyperlink recreation).
- 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

Single Page Application - Spotify Playlist Builder **October, 2019 - Present**
Repository: https://github.com/alchammatg/spotify-meister

- Implemented **OAuth** Implicit Grant Flow in **React.js**, allowing users to log in to my application in with their own Spotify account, to make changes to their account data through my application.
- Designing and building a **responsive** user interface using **Material-UI**, making the app accessible on any device.
- Obtaining results from multiple requests to Spotify's recommendations **REST API**, and combining results using scoring algorithms such as 'maximum recurring substring'.

Data Science Projects **September, 2019 - Present**
Repository: https://github.com/alchammatg/data-science

- Preprocessing various datasets using statistical analysis, merges, and filters in **Python**, **Pandas,** and **NumPy**.
- Plotting various relationships including time-series, scatter-plots, and histograms, using **Matplotlib** and **Seaborn**.
- Exploring machine learning supervised classifiers and regressions using **scikit-learn**.
- Independently gathering and studying data from various sources, asking and investigating my own questions, and reporting results in organized **Jupyter** notebooks.

Visual Sorting Algorithms **September, 2019**
Demo: 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 SQL** and **HTTP** fetches, automation through API, and an installation file.
- 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.

SKILLS

- Python (Requests, Pandas, Numpy, Asyncio, Matplotlib, Seaborn, Regex, Tk, Qt), Javascript (React), C, Java
- SSH, GIT, CI, Terminal, CMD