Alain Lou

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ID: 20780775 · 1A Computer Engineering, University of Waterloo · Candidate for BASc

Summary of Qualifications

- Maintained high academic standing in rigorous curricula while pursing side projects
- Proven experience in technical (Python, Java) and soft skills (conflict resolution, communication, and leadership)

Experience

Research Assistant – Dr. Jeff Graham, University of Toronto — July – September 2017

- Developed additional features using Javascript for online learning platform
- Software scripting with Openpyxl and Numpy (Python) on Excel spreadsheets, data analysis with R and MATLAB
- Project management for a small research team

Hockey Referee at the SHL, Parkdale Flames Hockey Association, and CCIHA — October 2015 – April 2018

- Officiated 350+ games, practicing conflict resolution, communication, and leadership

Projects (viewable on github.com/alainlou/*projectname*)

ClimateChangeDB – STEM Fellowship/SAS Big Data Challenge — Fall 2017 – Spring 2018

- Used Twitter and Facebook API to extract and analyse social media posts about climate change
- Research paper won Digital Science Award at SAS Big Data Challenge 2018

LearnBach – Personal — Summer – Fall 2017

- Scripting for conversion between digital music files (MIDI) and text files (.txt), file retrieval from online repository of music files, and conversion to .csv data representation
- Used to train a neural network computer algorithm that imitates Baroque keyboard composition

DineSafe – Presented to City of Toronto — Spring – Summer 2017

- Full-stack development: developed client for noSQL database of JSON Objects (IBM Cloudant), Android mobile application using Google Maps and Geolocation APIs, and XML to JSON converter for City of Toronto OpenData

HardwareProjects – Personal — Summer 2018 – Present

- Texas Instruments LM386 amplifier circuit
- Arduino DC motor controller with rain sensor

Competitive Programming – profile on dmoj.ca/user/fertilebean/solved — Spring 2016 – Present

- Perfect score on Junior Canadian Computing Challenge, honour roll (top 50) on Senior Canadian Computing Challenge, 8th place at Provincial ECOO competition
- Implemented advanced graph theory, search, and heuristics algorithms in Python, Java, and C++