

ALAIN LOU

ECE, University of Waterloo

Contact

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Technical Skills

- Soldering, GNU Bash, C++, Java (Spring Boot), Python (openpyxl and numpy), MATLAB/Octave, Web Dev (Angular, SCSS), SQL

Profile

- High academic standing in rigorous curricula while pursuing side projects, demonstrating time management and organization skills
- Experience in technical and soft skills

Education

B.ASc. CANDIDATE, HONOURS

COMPUTER ENGINEERING

University of Waterloo, 2023

CERTIFICATIONS

Machine Learning - Stanford University

Neural Networks - University of Toronto

HCOP Level 2 National Hockey Referee

Certification

Awards

- 2018** President's Scholarship of Distinction
- 2018** Digital Science, SAS Big Data Challenge
- 2017** Top 50, Sr. Canadian Computing Comp.
- 2017** Top 9, DECA (int'l case competition)
- 2017** Finalist (top 15), Canadian Chemistry Olympiad (for national team)

Projects



HardwareProjects - Personal

Summer 2018 - Present

- Texas Instruments LM386 amplifier circuit
- Arduino-compatible microcontroller board



ClimateChangeDB - STEM Fellowship/SAS Big Data Challenge

Fall 2017 - Spring 2018

- Used data from Statistic Canada and Environment Canada to calculate best spots for solar farms in Ontario
- Research paper won Digital Science Award at the STEM Fellowship/SAS Big Data Challenge 2018



LearnBach - Personal

Summer - Fall 2017

- Scripts 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
- XML to JSON converter for City of Toronto OpenData

Experience

Royal Bank of Canada

Technical Systems Analyst, Online Banking

January - April 2019

- Angular (frontend), Java (backend), MariaDB (SQL database)
- Lock & unlock client card UI, backend interaction service (reverse proxy, authentication, pagination)

University of Toronto

Research Assistant, Department of Psychology

July - September 2017

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

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 C++, Java, and Python