WAN SONG LEE

wansonglee.com | linkedin.com/in/wansonglee | github.com/WansongLee | wansong.lee@utoronto.ca | (289) 788-4022

EXPERIENCE

Teaching Assistant
September 2019 – April 2020

University of Toronto

- Teaching assistant for **Principles of Programming Languages** and **Neural Networks and Machine Learning**
- Ran 3 weekly tutorials for 120 students, helping students review key concepts
- Conducted practicals for students, guiding students through sets of instructions and supervising them as they worked on the lab

Research Assistant
January 2020 - April 2020

University of Toronto

- Used **PyTorch** to train a self-driving car that navigates using visual input and imitation learning from an expert human driver
- Performed literature survey to look into the possibility of attacking self-driving cars by adding malicious noise on billboards/traffic signs

PROJECTS

Course Crunch
January 2020 – April 2020

Web Application

- Developed a **React** web application that gives course recommendation for students and various other services
- Designed **REST**ful backend **microservices** enabling user's schedule to be stored persistently in an online database
- Worked in a group of 7, following the **scrum** and **agile** development processes to develop efficiently
- Tech stack: **MongoDB**, **Express**, **React**, **Node.js**, **PostgreSQL**, **Neo4j**

Reinforcement Learning AI
August 2019

PyTorch Project

- Trained an AI that learns to play the Atari game, Breakout, by recreating the classic *Human Level Control through Deep Reinforcement Learning* paper
- Experimented with various optimizations such as Prioritized Experience Replay, Fixed Target Networks and Double DQN

Exam Scanner
October 2018

Python Script

- Used **OpenCV** and **scikit-learn** to read student information from exam covers, then upload each student's test to their own repository on MarkUs
- Reduced the amount of time for professors and teaching assistants to input grades from 30 minutes to 1 minute
- Currently used by the Mathematical and Computational Science department to scan term tests and exams

EXTRACURRICULAR

Big Data & AI Case Competition
January 2020 - April 2020

Scotiabank and Institute for Management & Innovation at the University of Toronto

- Detected human trafficking by analyzing abnormal bank transactions
- Used a variational autoencoder to perform unsupervised learning for classification
- Achieved a finalist finish

EDUCATION

H.B.Sc. in Computer Science

University of Toronto

Sept 2016 – April 2020

Cumulative GPA: 3.58
Major GPA: 3.75
Final Year GPA: 4.00

Departmental Honors Roll 2019 - 2020
Dean's list 2019-2020

- Relevant Coursework

Machine Learning & Data Mining | Neural Networks & Deep Learning | Reinforcement Learning | Artificial Intelligence | Computer Vision | Databases | Web Development | Software Engineering | Systems Programming

TECHNICAL SKILLS

- Languages

Python | SQL | Java | C | Bash | HTML | CSS | JavaScript | PHP | Racket | Haskell | Lua | Visual Basic | Assembly | Verilog

- Library & Frameworks

PyTorch | Apache Spark | CUDA | NumPy | OpenCV | scikit-learn | pandas | ROS | PostgreSQL | MongoDB | Neo4j | Express | React | Node.js

- Other skills

Git | Linux | Latex | Scrum | Agile

LANGUAGES

English
Mandarin Chinese
Bahasa Melayu

References available upon request