Sean Wu

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Education

BASc | Engineering Science

University of Toronto | 2018–Present

- 2nd year student
- cGPA: 3.78

Skills

Software Development

Experienced
Python • MATLAB
Proficient
C • Java
Web/Mobile
Android • HTML • CSS • JavaScript
ReactJS
Databases
SQL
Data Analysis
NumPy • Matplotlib
Development Tools
Git • GitHub • Vim • Bash • Jupyter

General

Languages
English • French • Cantonese
Typesetting
LaTeX• Markdown
OS
Unix • macOS • Windows

Coursework

Completed

Data Structures & Algorithms
Linear Algebra
Calculus I & II
Electric Circuits
Computer Programming
Classical Mechanics

Currently Taking

Vector Calculus & Fluid Mechanics
Digital & Computer Systems
Differential Equations
Thermodynamics & Heat Transfer
Waves & Modern Physics

Taking Next Semester

Electricity & Magnetism
Quantum & Thermal Physics
Probability & Statistics
Mechatronics

Engineering Experience

National University of Singapore | Student Researcher

May–Aug 2019

- Developed a mathematical model for MATLAB simulations of a 1D indirect evaporative air conditioning unit
- Used MATLAB simulations to determine ideal parameter values and design configurations based on various inlet air properties and temperature conditions
- Conducted a detailed literature review and analyzed academic papers to study existing models and experimental data
- Completed a 20-page report detailing my simulation model and research findings

Trinity Montessori School | Volunteer Developer

Jan–Aug 2019

- Proposed and implemented a bulk SMS messenger application using Twilio's SMS API to enable school staff to quickly notify parents of important news
- Used Python, Tkinter, and PyInstaller to develop a functional desktop application with a simple graphical user interface (GUI)
- Programmed a local SQLite database to store, retrieve, and edit the recipients' contact info

Extracurriculars

UTMIST (University of Toronto Machine Intelligence Student Team)

Sept 2019–Present

- Currently developing a Recurrent Neural Network (RNN) using TensorFlow 2.0, as a part of a larger visual attention model in the Computer Vision Group
- Attended various conferences and lecture talks on different machine learning topics, such as Video Object Segmentation

UTRA (University of Toronto Robotics Association) SUMO Division

Dec 2018–Jan 2019

- Currently building a small a small scale Arduino robot in a group of 3
- Worked on circuit wiring and programming micro-controller

Technical Projects

GPXOverlay

Sept 2019–Present

- Designed and programmed a Python library to process GPS data (from GPX files) and overlay it on video input using user-defined HTML templates
- Implemented basic speed calculations and data processing
- Used NumPy and Matplotlib for storing and graphing data, ElementTree for parsing XML, and FFmpeg for processing video
- Used object-oriented programming and followed PEP8 Python documentation conventions

Awards

Engineering Science Research Opportunity Fellowship (ESROP Global)	2019
Faculty of Applied Science & Engineering Dean's Honours List	2018–2019
Donald C. Leigh Memorial Scholarship Recipient	2018
National AP Scholar (Canada) Award	2018
Governor General's Academic Bronze Medal	2018