TRISTAN **AUSTIN**

(519) 402-1895
tristan.austin@queensu.ca · Tristan Austin | LinkedIn · 430 ½ Alfred Street, Kingston, Ontario

EDUCATION

SEPTEMBER 2019 – CURRENT

BASC IN ENGINEERING PHYSICS (COMPUTING SUB-PLAN), QUEEN'S UNIVERSITY

- Cumulative GPA 4.06/4.3
- Excelled in courses in relativity and quanta, math, circuits, and lab work.
- Programming courses in information structures, object-oriented programming, computational engineering physics, and management of experimental data.

RELEVANT EXPERIENCE

MAY 2019

VOLUNTEER INSTRUCTOR, HEAVEN HILL ACADEMY

GUANSHAHAR, NEPAL

- Instructed grade five Nepali children in science, mathematics, English, and general knowledge.
- Developed strong people skills through interaction with Nepali teachers and students as well as other volunteers from a variety of countries.
- Worked effectively in a team of volunteers by planning and completing daily activities and contributing to a positive environment between the volunteers, teachers, and students.
- Became highly adaptable to different working conditions.

JANUARY 2018-JUNE 2018

INSTRUCTOR, KUMON

SARNIA, ONTARIO

- Precisely organized and logged weekly grades into a spreadsheet to track progress of students and consistently corrected data entry errors.
- Marked and graded students' work with a keen diligence and accuracy.
- Instructed students ages 3-16 in science, math, and English. I was personally responsible for assisting one student in becoming more focused which allowed them to improve their marks substantially.

ACADEMIC PROJECTS

MODEL HYPERLOOP VEHICLE

- Used engineering design principles to develop a model hyperloop vehicle
- Created an excel spreadsheet to model torque and power curves of the drive train depending on different gear ratios.
- Modelled and constructed the vehicle using an Arduino microcontroller
- The final vehicle performed in the top 25% of the class.

GEOPHYSICAL SENSOR FOR GROUNDWATER DETECTION

- Designed a water detecting resistivity sensor module for the QSET Mars rover
- The MATLAB code required both a component to generate underground aquifers and then simulate a resistivity survey of the surrounding area. Options to generate various aquifers of different sizes and add or remove sensor noise.
- Solely responsible for modelling the sensor's behaviour using MATLAB code
- Responsible for regular communication between team, project manager, and client.

PUBLIC TRANSIT REDESIGN FOR PATHOGEN TRANSMISSION REDUCTION

- Redesigned the GO Train for pathogen transmission reduction.
- The final design solution involved several pieces including specific seating arrangements and a proposed smartphone application.
- The redesign had to consider economic viability and social implications.
- Contributed greatly to the smartphone application design and economic analysis.

ARDUINO MICROCONTROLLER POLLUTION SENSOR

- Currently designing an Arduino sensor to detect greenhouse gas levels. The sensor will employ multiple modules for various gases.
- Sensor code will be completed using Python and the Arduino IDE.

SKILLS

- MATLAB, Arduino, C, Python, Java, JavaFX, Jupyter Notebooks, Anaconda.
- Microsoft Office
- SOLIDWORKS
- Basic LaTex
- Git