

AMAN BHARGAVA

aman.bhargava@mail.utoronto.ca | 905-376-2832 | 27 King's College Cir, Toronto, ON M5S, Canada
<https://github.com/amanb2000> | <https://aman-bhargava.com/>

Education

University of Toronto: B.A.Sc. Engineering Science '22

GPA: 3.88/4

Relevant Coursework: Engineering Mathematics and Computation, Calculus 1, Structures and Materials, PRAXIS I, Introduction to Computer Programming, Classical Mechanics

Trinity College School: High School Diploma '18

GPA: 99%

Honours: Valedictorian, Canadian National Scholar, Governor General's Bronze Medal, AP Capstone Diploma.

Relevant Coursework: AP Computer Science, AP Biology, AP Chemistry, AP Physics.

Skills

Programming Languages: Python, C, Java, MATLAB, Arduino, JavaScript, PHP, HTML5/CSS3, jQuery, Processing3.

General Technical Skills: Supervised Machine Learning, Scripting, Process Automation, Web Development.

Software: PyTorch, NumPy, SciKit Learn, Vim, Jupyter, Git, OpenCV, Photoshop.

Other Skills: Music Production, Public Speaking, Graphic Design.

Experience

Fluent.AI: Intern - July-August 2018

Conceptualized and developed Python scripts to automate the data pre-processing pipeline for training of natural language processing algorithms. Researched and reported on competitor companies.

Activities

University of Toronto Aerospace Team: Aerial Robotics

Vision Subsystem – September 2018-April 2019

Collaboratively design and develop GUI tools and associated scripts to integrate machine and human data processing for the Unmanned Systems Aerial Robotics competition.

University of Toronto BlueSky Solar Racing Team

Strategy Subsystem – September 2018-April 2019

Assist with fabrication work and material testing including carbon fiber layups, fiberglass layups, and wood scaffolding.

University of Toronto Consulting Association – September 2018-April 2019

Worked with a team of 5 other students and post-doctoral researchers to research, develop, and present a plan to improve the CareRelay onboarding process for new users.

Projects

MakeUofT 2019: Play the Orchestra

Awards: Top 3 Teams Overall, Best Documentation.

Led a team of 4 first-year Engineering students at the largest makeathon in Canada to create a system of networked mobile phones and raspberry pi's in order to enable a user to play a real (human) orchestra via a MIDI keyboard in real time. Included machine learning chord prediction, chord analysis, Node.js web socketing, and Raspberry Pi prototyping.

Project Website: <https://www.hackster.io/137840/play-the-orchestra-2e32f4>

Interpreting EEG Data with Machine Learning – October 2017-April 2018

Conducted independent machine learning/neuroscience research, conducting novel studies on predicting student interest level based on EEG scan data. Employed EMOTIV EEG headset and Azure Machine Learning platform as well as pre-processing in GNU Octave.

Paper: <https://archive.org/details/Draft10BhargavaResearchPaper>

Evolutionary Bridge Design – 2018-2019

Created a genetic algorithm to optimize the design of a matboard bridge for CIV102 in late 2018. Created supplementary programs to visualize evolutionary progress and speciation of the bridges in early 2019. Maximum load was nearly double that of all human-designed bridges. Written in Python3.

GitHub: https://github.com/amanb2000/Evolutionary_Bridge_Designer