AMAN BHARGAVA

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Education

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

GPA: **3.80/4**

Honors: Dean's List, President's Scholarship.

Relevant Coursework: Linear Algebra, Algorithms and Data Structures, Fundamentals of Electrical Circuits, Calculus II, Material Science, Praxis II.

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 Physics, AP Research, Advanced Latin.

Skills

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

General Technical Skills: Supervised Machine Learning, 3D Modelling, Scripting, Process Automation, Web Development.

Software: PyTorch, Fusion360, NumPy, SciKit Learn, Vim, Jupyter, Git, OpenCV, Node/Angular.js, Photoshop, Ableton 10.

Other Skills: Music Production, Video Editing, 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 designed and developed GUI tools and associated scripts to integrate machine and human data processing for the Unmanned Systems Aerial Robotics competition.

Trinity College School Tutor - September 2016-June 2018

Ran office hours for AP Chemistry and Calculus students, taught Introductory Computer Science as a supply teacher during November-December of 2017. Designed and implemented mathematics training software for Trinity College School in 2018.

University of Toronto Consulting Association – September 2018-April 2019

Worked with a team of 5 undergraduate and graduate students to research, develop, and present a plan to improve the CareRelay onboarding process for new users.

Projects

Team Lead: MakeUofT 2019 – "Play the Orchestra"

Awards: Top 3 Teams Overall, Best Documentation.

Created a system of networked mobile phones and Raspberry Pi's 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.

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