AMAN BHARGAVA

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Education

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

GPA: **3.80/4.0**

Honors: Engineering Alumni Network Scholarship, 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 AP Scholar, Governor General's Bronze Medal, AP Capstone Diploma.

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.js, Angular.js/Angular 8, Firebase.

Experience

Venture13: Technical Intern - May-August 2019

Conceptualized and developed full-stack web applications using Angular and Firebase incorporating Google Calendar, Maps, Directions API's for **TheWeekendRoute**, **Venture13,** and the **Cobourg Police Force**. Created robotics software suite for **CrossWing Solutions** using OpenCV, Python, and JavaScript. Assisted with microprocessor programming, implementing low power machine learning and signal processing with Nordic Semiconductor's SDK for Amy Arthur's **CLAXON** project.

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.

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 CareRelay's onboarding process and user retention strategies.

Projects

CareTrack: Co-Founder & CEO – April 2019-Present

Conceptualized and developed a full-stack web based **medical data analytics platform** for assisted living facilities. CareTrack turns data that nurses currently track on paper into data points. We use these data points to drastically improve patient treatment via **data visualization** and **machine learning based predictive analytics**. I **recruited** and **trained** a team of fellow students to use (primarily python-based) modern data processing tools. We are currently in private beta.

Project Website: http://www.caretrack.io/

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

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

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

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