Aman Bhargava

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Summary ⚡

I strive to be in a position where I can implement modern **computation, design, and engineering** with groups of **talented, passionate people** to solve meaningful problems.

I also love making **music**, **rock climbing**, and **photography**! Check out my Spotify and 500px!

Education 🎓

University of Toronto: BASc Engineering Science

GPA: 3.80/4

Relevant Coursework: Linear Algebra, Algorithms and Data-structures, Digital and Computer Systems, Calculus I-III + Vector Calculus

Skills

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

Software: PyTorch, Fusion360, NumPy, SciKit Learn, Vim, Jupyter, Git, OpenCV, Node.js, Angular.js/Angular 8, Firebase.

Experience 👷

Oct. 2019-Now — **Research Assistant** @ Mann Lab

Assist with **microprocessor programming,** live **EEG analysis** and feedback projects, and scripting. Currently focusing on investigating the uses for **Sequential Wave Imprinting Technology** (SWIM) and **Muse EEG**. Tooling is primarily **Python** and **C**.

May-Aug. 2019 — **Technical Intern** @ Venture13

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.

Projects 💡

CareTrack: Co-Founder & CEO - April 2019-Present - caretrack.io/

- Designed and implemented a **full-stack web-based** medical data entry & **analytics** platform for assisted living facilities.
- Leverages modern UI, **data visualization**, and **predictive algorithms** to improve patient outcomes and nurse, doctor, and administrator productivity.
- Currently in **private beta** for data collection. Incorporated in **July 2019**.
- Utilizes **Angular**, **Firebase**, **Chart.js**, **Python**/Flask.

Play the Orchestra: Team Lead - MakeUofT 2019 - github.com/amanb2000/PLAY_THE_ORCHESTRA

- Created a system of networked **mobile phones** and **Raspberry Pi's** to enable users to play a human orchestra in **real time** via a MIDI keyboard.
- Included a **chord analytics** and **prediction** module that recognized chords → utilized a Neural Net to predict the next chord in the sequence.
- **Awards:** Top 3 Teams, Best Documentation.
- Utilizes **Node.js**, **Socket.IO**, **Azure Cloud**.

AP Capstone: Predicting Interest with EEG - Oct. 2017-April 2019 - archive.org/details/Draft10BhargavaResearchPaper

- Conducted independent **machine learning/neuroscience research** on predicting student interest level based on EEG scan data.
- Successfully trained a collection of **classifiers** able to determine the interest level of students with **~70% accuracy.**
- **Awards**: 5/5 in AP Research, 99th percentile of all AP Research projects (all possible marks attained on paper & oral defense)
- Utilizes **EMOTIV** EEG headset, pre-processing in **MATLAB/Octave**, **Azure Machine Learning**.