Ribhav Kapur

647-740-8459
ribhav.kapur99@gmail.com
Annual GPA: 3.79

I am a 4th year student focusing in Artificial Intelligence at the University of Toronto. I am extremely interested in doing research in AI and formulating new learning methods to create smarter and more efficient architectures. My goal is to be able to create an AI being that is conscious (ofcourse the definition of consciousness itself is a very deep question) and that gathers some sort of a deep emotional response from humans. I am extremely fascinated by the brain, consciousness, and how we perceive everything around us and how and why we feel the emotions that we do and how we learn things over our lifetime. I have found that the best way for me to learn something is to build it and the simple complexity of the math behind machine learning really fascinates me.

I have worked in AI projects since my first year where I placed top 5 in the Orbis Challenge hackathon where the goal was to develop an algorithm that plays splix.io. I had my first introduction to various search algorithms here like BFS, DFS, A*, DIBFS (Depth-Iterative BFS), etc. The following year, I placed 4th at MakeHarvard for a security drone that leveraged the power of computer vision to autonomously secure areas.

My first research experience was this summer when I wrote a paper about Cycle-GANs under the guidance of Dr. Morteza Rezanejad. The paper focused on trying to generate a human face from a cartoon. I learnt a lot about stabilising GANs and the importance of preprocessing data from this. My biggest take away from this was that there is a lot more to machine learning than what is taught in class and the only way to truly understand the depths of it is to get first hand experience in machine learning.

Currently, I'm working on a paper on algorithmic trading. I am benchmarking the performance of various machine learning algorithms, both deep learning and non-deep learning, to see how they perform against some strategies written by quantitative analysts. I am using this opportunity to learn about the breadth of machine learning since I feel like these days everyone just gets lost in one particular type of neural network and never looks beyond it. I would like to explore the different methods like decision trees with random forests, XG boosting, bagging SVMs, etc along with regular multi-layer-perceptron networks, larger residual networks, CNNs, RNNs, LSTMs, etc. I am using this as an opportunity to learn more about these different methods and get experience working with them.