



## Experience

### Research Assistant

*Learning and Neural Lab University of Toronto (Current)*

- Analysis of brain and behavioural data.
- Designing experiments to measure different aspects of memory and how they are supported by the growing brain.
- Analysis on the relation of brain development to changes inn memory and learning ability.
- Learning more about Recursive Cortical Networks to better model the brain.

### Teaching Assistant

*UofT AI (July 2020 - current)*

- Worked on the syllabus for the introduction to AI course.
- Created video lectures for remote learning.
- Hosting office hours and tutorials weekly.

### Co-Founder

*Connct (Jan 2019 - Jan 2020)*

- Developed a web app to aid and automate work social media influencers do on a daily basis.
- Heavy use of computer image understanding and natural language processing done manually.
- Familiarity with many APIs such as google’s vision, NLP, Facebook’s graph API, etc and used MongoDB.
- Pitched to investors and secured an offer for \$200k in 2 months with a \$2 Million valuation.

### Co-Founder

*DreamTune (Jan 2020 - July 2020)*

- Web app to help public rights organisations identify and gather evidence against illegal use of copyrighted content.
- Made the process exponentially more efficient while requiring a fraction of the employees.
- Incorporated CI/CD for testing and development infrastructure
- Development in React and used various libraries in javascript for web scraping for data collection.
- Acquisition interest from Dataclef but not made headway till now due to the global pandemic.

### Software and Vision Engineer

*Robotics for Space Exploration (RSX) (Jan 2018 - June 2018)*

- Worked on the spacial awareness for the UofT Mars rover. Used Ross Kinetic, and specifically RTabMap for this.
- Involved using python for object detection, foreground and background differentiation and distance approximation.

## EDUCATION

### University of Toronto - 2017-2021

*Honours in the Bachelor of Science*

- Computer Science Specialist focusing in Artificial Intelligence
- Mathematics Minor

Yearly GPA	
CGPA 3.47	
Year 1	3.83
Year 2	2.67
Year 3	3.79

## PROJECTS

### Neural Network Style-Transfer in Images (May 2020 - Aug 2020)

- Research project including extensive use of image understanding concepts, like scale and rotation invariant feature detection, localisation and matching, are used in the framework of a Deep Convolutional Generative Adversarial Network (DCGAN) to make the outputs more realistic.
- Researched the performance of Variational autoencoders and Adversarial autoencoders in style-transfer.
- Deep understanding of underlying image structures required to teach a computer to create novel, realistic images.

### Algorithmic Trading Research (Current)

- Goal is to understand the strengths and weaknesses of various machine learning models by predicting stock prices.
- Use of various deep networks like MLP, CNN, LSTM, etc.
- Use of non-deep machine learning methods like SVMs, Decision Trees with Bagging and XG Boosting, etc.
- Principal Component Analysis to find important technical indicators for stock price prediction.
- Scraping information from Twitter for sentiment analysis for stock price prediction.

### Virtual Trainer (May 2018)

- Fitness app to generate unique workouts to target functions and areas of different muscle groups optimally.
- CNN to determine body type based on picture and customise workout programs accordingly.

### Security Drone (Feb 2019)

- Autonomous GPS enabled drone to replace students who escort other students at night across campus.
- Image processing for obstacle and facial detection done on server since something on the drone wouldn’t be powerful.
- Arduino flight controller coded from scratch in C#.

### My Website (2017)

- Basic website made during my first year to show my projects, grades, socials, etc. Make from scratch in vanilla JavaScript, HTML and CSS.

## HACKATHONS

- MakeHarvard 4th place for autonomous security drone.
- Orbis Challenge top 5 for game winning AI that plays splix.io