Montreal, Canada
+1 (514) 573-8333

Anthony G.X. Chen

anthony.gx.chen@gmail.com
https://im-ant.github.io/

Experience

Data Science Intern — **Microsoft Corporation** — **Summer 2019**

- Natural language processing research. Investigating the viability of unsupervised information extraction using sentence embedding in the biomedical domain.

Software Engineering Intern — **Microsoft Corporation** — **Summer 2018**

- Leveraged distributed parallel cloud computing in building a metrics pipeline for data visualization and analytics, improving the number of valuable business insights by over 500% with ability to add more.
- Scalable, efficient design allows for rapid analysis of millions of records to meet Azure's big data needs.

Computational Researcher — **MUHC** — **May 2016 – June 2018**

- Developed data extraction algorithms for genomics data, reduced analysis time by over 90%; have since been adopted to other projects and are currently being implemented as a clinical diagnostic tool.

Quantitative Researcher — **CoBrA Lab, McGill** — **Summer 2017**

- Applied unsupervised methods to MRI data in building data-driven tool for brain image segmentation.
- Developed data pre-processing pipelines to remove human interventions, adopted by other researchers.

Teaching Assistant — **McGill University** — **Fall 2016 - Fall 2017**

- Course: Logic and Discrete Mathematics, Physics - Mechanics and Electromagnetism.

Projects

Pentago-Swap-Bot — **2019**

- Game-playing agent for "Pentago-Swap". Constructed general-purpose Monte-Carlo Tree Search algorithm capable of learning from self-play for *any* perfect information games. (Class competition rank: 39/289)

ProductivityLog — **2018**

- Employ NLP and Bayesian machine learning to classify self-reported activities into productivity categories.
- Data visualization and classical statistical methods are used to find trends to inform future self-improvement.

Cluster_Stability_Analyzer — **2017**

- Reduced space complexity from $\mathbf{O}(n^2)$ to $\mathbf{O}(n)$ in Ben-Hur's 2002 (Pacific Symposium on Biocomputing) method for stability analysis that counts the number of common edges between graphs.

Monkey_Mind_Reading — **2017**

- Used deep neural net to analyze biological neural activity, predicted eye movement with >90% accuracy.

Publications

Trakadis, Y.J., Sardaar, S., **Chen, A.** *et al.* Machine learning in schizophrenia genomics, a case-control study using 5,090 exomes. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics* (2019).

Chen, A.G., Benrimoh, D., Parr, T., Friston, K.J.. A Bayesian account of generalist and specialist formation under the Active Inference framework. *bioRxiv 644807*; doi: https://doi.org/10.1101/644807. (Preprint, not yet published)

Education

Montreal, QC — **McGill University** — **Sept 2019 - May 2021**

- *M.Sc. Computer Science.* (Sept 2019 - May 2021)
- *B.Sc. Major Neuroscience, Minor Computer Science.* (Sept 2015 - May 2019; GPA: 3.98/4.0)
- Selected coursework: Algorithms & Data Structures, Probability, Calculus, Machine Learning, Neuroinformatics.

Technologies

- Python, Anaconda, Shell Scripts, UNIX-based systems, nltk, Keras, R, C#, Java, MATLAB, C.

Awards

Canada Graduate Scholarship; ***Canadian Institutes of Health Research*** April 2019
Scholarship ($17,500) for high-calibre scholars who are engaged in eligible master's. Selected based on academic excellence, research potential, personal characteristics and interpersonal skills.

Winner; ***ImplementAI Hackerthon*** October 2017
Selected from over 100 participants, for predictive model on stock fluctuations using natural language data.

Mobility Undergraduate Award; ***McGill University*** September 2017
$1500 awarded to students nominated by McGill to participate in study aboard programs (at UCL).

1st Place, Research Expo; ***Douglas Mental Health University Institute*** August 2017
For work done on unsupervised learning application to medical imaging analysis.

Emily Ross Crawford Scholarship; ***Faculty of Science, McGill University*** July 2017
$1000 awarded to candidates of high academic metric in the first two years of university.

NSERC Research Award; ***Faculty of Medicine, McGill University*** April 2017
Selected amongst a pool of competitive applicants for a $4500 summer research scholarship.

Academic Distinctions

Dean's Multidisciplinary Undergraduate Research List; ***McGill University*** May 2019
Recognizes B.Sc. students who have participated in substantial and broad undergraduate science research.

Dean's Honour List - Graduating; ***Faculty of Science, McGill University*** May 2019
Recognizes top 10% of graduating faculty of science students based on cumulative academic excellence.

Dean's Honour List; ***Faculty of Science, McGill University*** July 2017
Recognizes top 10% of faculty of science students based on academic excellence in the 2016-17 academic year.

Dean's Honour List; ***Faculty of Science, McGill University*** July 2016
Recognizes top 10% of faculty of science students based on academic excellence in the 2015-16 academic year.