

ANTHONY G.X. CHEN

Experience

Data Science Intern - Microsoft - Greater Seattle Area

Summer 2019

- Industry research in NLP, developed unsupervised information extraction methods using word embeddings.
- Improved mention extraction F1 score by over 62% (relative), specifically focusing in biomedical domains.

Research in Computational Neuroscience - Douglas Hospital - Montreal

Supervised by **Prof. Mallar Chakravarty**

2017-2019

- Honed skills in MRI data analysis and research. Investigated data-driven methods for unsupervised categorization of behaviourally relevant brain sub-regions, using multi-model neuroimaging data (2017).
- Devised new method for discovering clinical subgroups in Alzheimer's disease for early intervention (2018).
- Enhanced presentation skills through multiple poster presentations and an invited talk on the above projects.

Software Engineering Intern - Microsoft - Greater Seattle Area

Summer 2018

- Developed engineering skills at scale. Leveraged distributed cloud computing in building metrics pipeline for data visualization and analytics. Improved number of valuable business insights by >500% with ability to add more.
- Scalable and efficient design allows for rapid analysis of millions of records to meet Microsoft Azure's data needs.

Research in Theoretical Neuroscience - UCL - London, UK

Supervised by **Prof. Karl Friston**

Spring 2018

- Cognitive modelling of human behaviour. Developed variational Bayesian model of habit formation.

Research in Genomics - McGill University Health Centre - Montreal

Supervised by **Dr. Yannis Trakadis**

2016 - 2018

- Sharpened skills in clinical research, investigated genetic risk factors for schizophrenia with clinical applications.
- Honed leadership and management skills, supervised student researchers in a clinical psychiatry literature review.

Teaching Assistant - McGill University - Montreal

2016 - 2017

- Honed teaching skills. Held weekly tutorials for two undergraduate physics courses (Introductory Dynamics, Electromagnetism). Marking TA in the Dept of Mathematics for class: Logic and Discrete Mathematics.

Publications

Chen, Anthony, Veronica Chelu, Blake Richards, Joelle Pineau. "Lambda Successor Return Error." *NeurIPS Workshop on Biological and Artificial Reinforcement Learning* (2020).

Chen, Anthony G., David Benrimoh, Thomas Parr, and Karl J. Friston. "A Bayesian Account of Generalist and Specialist Formation Under the Active Inference Framework." *Frontiers in Artificial Intelligence* 3 (2020). <https://doi.org/10.3389/frai.2020.00069>.

Patel, Raihaan, Christopher J. Steele, **Anthony GX Chen**, Sejal Patel, ... and M. Mallar Chakravarty. "Investigating microstructural variation in the human hippocampus using non-negative matrix factorization." *Neuroimage* 207 (2020): 116348.

Trakadis, Yannis J., Sameer Sardaar, **Anthony Chen**, Vanessa Fulginiti, and Ankur Krishnan. "Machine learning in schizophrenia genomics, a case-control study using 5,090 exomes." *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics* 180, no. 2 (2019): 103-112.

Education

M.Sc. Computer Science - McGill University / Mila Co-supervised by Prof. Joelle Pineau and Prof. Blake Richards Cumulative GPA: 4.0/4.0	2019 - ongoing
Brains, Minds & Machines Summer School - MIT / CBMM	Summer 2020
B.Sc. Major in Neuroscience - McGill University Cumulative GPA: 3.98/4.0	2015 - 2019

Awards

FRQNT Master's Scholarship (\$17,500) - Fonds de Recherche du Québec Awarded to top applicants in natural sciences, based on academic excellence, research potential, scientific quality of research proposal, and leadership and communication skills.	April 2020
Master's Excellence Scholarship (\$10,000) - Centre UNIQUE and McGill University Scholarship for interdisciplinary research in AI <i>and</i> neuroscience. Selected based on scientific quality of the M.Sc. project, and the academic and research excellence of the student.	Feb. 2020
2nd Place, Brain@McGill Undergraduate Prize (\$200) - McGill University Awarded based on final year neuroscience research project and essay submission. Invited presentation at the Integrated Program in Neuroscience Graduate Retreat in Fall 2019.	Sept. 2019
Canada Graduate Scholarship (\$17,500) - Canadian Institutes of Health Research Scholarship for high-calibre scholars who are engaged in eligible master's. Selected based on academic excellence, research potential, personal characteristics and interpersonal skills.	Aug. 2019
Mobility Undergraduate Award (\$1500) - McGill University Awarded to students nominated by McGill to participate in study abroad programs (at UCL).	Sept. 2017
1st Place, Research Expo - Douglas Mental Health University Institute Awarded at the undergraduate research expo for work done on unsupervised learning application to medical imaging analysis.	Aug. 2017
Emily Ross Crawford Scholarship (\$1000) - Faculty of Science, McGill University Awarded to candidates of high academic merit during their U1 or U2 year.	July 2017
NSERC Undergraduate Research Award (\$4500) - Faculty of Medicine, McGill Univ Awarded to young potential researchers to fund a 16-weeks summer research project. Awarded through the highly competitive Faculty of Medicine at McGill.	April 2017
Tomlinson Engagement Award for Mentoring (\$900) - McGill University Awarded to talented individuals who has performed well on undergraduate courses to be a peer-mentor for these courses. Awarded for three consecutive semesters (\$300 per semester).	2016-2017
Faculty of Science Scholarship (\$500) - McGill University Awarded based on academic merit.	July 2016

Academic Distinctions

Dean's Multidisciplinary Undergraduate Research List - McGill University Recognition for Bachelor of Science and Bachelor of Arts and Science students who have participated in substantial and broad undergraduate science research.	May 2019
Dean's Honour List - Science Graduation - McGill University Recognition for Faculty of Science students for graduating amongst the top 10% of the faculty's graduating class.	May 2019