

Education

- 2017– **M.Sc. Computer Science**, *University of Alberta*, Edmonton, 4.0.
2013–2017 **B.Sc. Statistics and Computer Science**, *McGill University*, Montréal, 3.61.

Research Interests

My current projects focus on reinforcement learning agents that are augmented by curious and exploratory behaviour. I am interested in the nature of sequential decision-making, as well as improving education and healthcare systems using statistics and machine learning.

Experience

Employment

- Jan 2016 – **Undergraduate Teaching Assistant**, *Department of Mathematics and Statistics*,
Apr 2017 *McGill University*, Montréal.
Marked assignments and held office hours to answer questions on course material.
- Sep 2015 – **Computer Science Tutor**, *McGill Computer Science Undergraduate Society*,
Apr 2017 Montréal.
Tutored students in computer science with a focus on introductory topics.

Research

- May 2017 – **Reinforcement learning in simple robots**, *Department of Computing Science*,
Aug 2017 *University of Alberta*, Edmonton.
Created a software platform for conducting reinforcement learning experiments on a Turtlebot in collaboration with other students.
- Jul 2016 – **Phylogenetic tree imputation**, *Dr. Kenji Fukumizu*, *Institute of Statistical Math-*
Aug 2016 *ematics*, Tokyo.
Implemented a pipeline to simulate trees and analyze the performance of arbitrary imputation techniques.
- May 2016 – **Layered predictions in reinforcement learning**, *Dr. Richard Sutton*, *University*
Jun 2016 *of Alberta*, Edmonton.
Helped design and carry out experiments to learn layered, multi-timescale predictions of simple sensorimotor events in parallel. Physically developed the environment, wrote code to facilitate learning, and assessed predictive ability.
- Sep 2015 – **Genome-wide single-nucleotide polymorphism imputation**, *Dr. James Engert*,
Dec 2015 *McGill University*, Montréal.
Programmed a pipeline to align, phase, impute, and analyze genetic data to discover novel cardiovascular disease pathways.

May 2015 – **Curling with Monte Carlo tree search**, *Dr. Michael Bowling, University of Alberta*, Edmonton.

Aug 2015 Programmed curling bots (reinforcement learning agents playing a simulated game of curling) using experimental variants of Monte Carlo tree search to efficiently search continuous multidimensional spaces. Also created data visualizations to analyze subtleties in styles of play between bots.

May 2014 – **Breast cancer recurrence prediction**, *Dr. Russell Greiner, University of Alberta*, Edmonton.

Aug 2014 Applied radial basis function networks and other machine learning methods to identify predictors of breast cancer survival time and recurrence.

Awards

May 2018 – **Walter H. Johns Graduate Fellowship**, *University of Alberta*.
Apr 2019

May 2018 – **Alexander Graham Bell Canada Graduate Scholarship**, *Natural Sciences and Engineering Research Council of Canada*.
Apr 2019

Jan 2017 – **Tomlinson Engagement Award for Mentoring**, *McGill University*.

May 2017 Professors select students to do at least 30 hours of mentoring work over the semester.

Journal Articles

- [1] Hao Yu Chen, Line Dufresne, Hannah Burr, Athithan Ambikkumar, **Niko Yasui**, Kevin Luk, Dilrini K. Ranatunga, Rachel A. Whitmer, Mark Lathrop, James C. Engert, and George Thanassoulis. "Association of LPA Variants With Aortic Stenosis". In: *JAMA Cardiology* (2017), pp. 3–8. ISSN: 2380-6583. DOI: 10.1001/jamacardio.2017.4266.

Extracurriculars

July 2018 – **Organizing AI for Good non-profit student volunteering**, *Alberta Machine Intelligence Institute*.

May 2018 – **Suicide Prevention Implementation: Education and Awareness Subcommittee**, *University of Alberta*.