Niko Yasui

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Education

2017 – present **M.Sc. Computer Science**, Advisor: Prof. Martha White.
University of Alberta (expected 2019)

2013 – 2017 **B.Sc. Statistics and Computer Science**.
McGill University, 3.6/4.0

Experience

2017 – present **Research Assistant**, *Department of Computing Science, University of Alberta*.
Developed and evaluated value-based reinforcement learning control algorithms.

2019 **Course Developer**, *University of Alberta & Alberta Machine Intelligence Institute*.
Developed video lectures for Coursera's Reinforcement Learning Specialization. Wrote scripts, created slides, and featured in videos.

Summer 2017 **Research Intern**, *Richard Sutton PhD, University of Alberta*.
Created a reinforcement learning experiment platform based on ROS for a mobile robot. Designed a robotic learning agent to perform a visual navigation task without prior knowledge.

2016/2017 **Teaching Assistant**, *Department of Mathematics and Statistics, McGill University*.
Marked assignments and held office hours to answer questions on course material.

Summer 2016 **Research Intern**, *Kenji Fukumizu PhD, Institute of Statistical Mathematics*, Tokyo.
Designed a pipeline that simulates gene trees to analyze phylogenetic imputation techniques.

Summer 2016 **Research Intern**, *Rich Sutton PhD, University of Alberta*.
Helped design and carry out experiments to learn layered, multi-timescale predictions of simple sensorimotor events in parallel. Developed the physical environment, wrote code to facilitate learning, and assessed predictive ability.

Fall 2015 **Research Intern**, *James Engert PhD, McGill University*.
Programmed a pipeline to analyze genetic data and discover cardiovascular disease pathways.

Summer 2015 **Research Intern**, *Michael Bowling PhD, University of Alberta*.
Programmed reinforcement learning agents to play a simulated game of curling, using experimental variants of Monte Carlo tree search to efficiently search continuous multidimensional spaces. Created data visualizations to analyze subtleties in styles of play between agents.

Summer 2014 **Research Intern**, *Russell Greiner PhD, University of Alberta*.
Applied radial basis function networks and other machine learning methods to identify predictors of breast cancer survival time and recurrence.

Journal Articles

Niko Yasui, Chrysafis Vogiatzis, Ruriko Yoshida, and Kenji Fukumizu. "imPhy: Imputing Phylogenetic Trees with Missing Information using Mathematical Programming". In: *IEEE/ACM Transactions on Computational Biology and Bioinformatics* (2018).

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.

Extended Abstracts & Presentations

Niko Yasui, Sungsu Lim, Cam Linke, Adam White, and Martha White. "An Empirical and Conceptual Categorization of Value-based Exploration Methods". In: *2nd Annual Workshop on Exploration in Reinforcement Learning at the International Conference of Machine Learning*. 2019.

Leadership & Service

2018 – present **Founder, AI 4 Good**, *Alberta Machine Intelligence Institute*.
Started a volunteer student group offering data science services to non-profits in Edmonton.

2018 – present **Co-chair, Suicide Prevention Implementation: Education and Awareness Subcommittee**, *University of Alberta*.
Planned community outreach events to reduce stigma around mental health and raise awareness about relevant resources in and around campus for students, staff, and faculty.

2018 **Volunteer Teaching Assistant**, *University of Alberta*.
Assisted students with course work and questions in lab sessions and in an online forum.

2015 – 2017 **Computer Science Tutor**, *McGill Computer Science Undergraduate Society*.
Tutored students in computer science with a focus on introductory topics.

2014 – 2017 **Equity in Computer Science**, *McGill Computer Science Undergraduate Society*.
Discussed diversity and accessibility issues in the department and broader field.

Honours & Awards

2018 **Walter H. Johns Graduate Fellowship**, *University of Alberta*.

2018 **Canada Graduate Scholarships-Master's Program**, *NSERC*.

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