Bryan Chan

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Education

University of Alberta *PhD in Computing Science, Statistical Machine Learning* *2022–Present*

- Supervisory Committee: Dale Schuurmans (supervisor), Csaba Szepesvári, and András György
- Research Interests: In-context learning and reinforcement learning (RL)

University of Toronto *MSc in Applied Computing, Computer Science* *2018–2019*

- Supervisors: Florian Shkurti, Animesh Garg, and James Bergstra
- Research: Average Reward Reinforcement Learning for System Optimization in Robotics Application

University of Toronto *HBSc in Computer Science* *2013–2018*

- Graduated with high distinction, specializing in software engineering (Co-op)

Experience

Machine Learning Researcher/Research Intern *Toronto, Canada*
Kindred AI (Acquired by Ocado Technology) *May 2019–Oct. 2024 (intermittent)*

- Developed a novel average-reward RL algorithm to optimize SORT KPIs (robotic bin-picking system)
- Designed and deployed RL pipelines to train ∼30 production robots in parallel, with safeguards via bandits
- Built teleoperation systems for expert demonstrations; currently used in production deployment
- Simulated real-world manipulation tasks to enable algorithm prototyping and cross-team experimentation
- Full-time employment from April 2020–June 2022

Student Researcher *Remote, Canada*
Google DeepMind *Sep. 2023–Feb. 2024*

- Studied sample efficiency of RT-X variants via CLIP-based demonstration diversity metrics
- Scaled transformer-based models using multi-host infrastructure and FSDP

Sessional Instructor *Toronto, Canada*
University of Toronto *Sep. 2020–Apr. 2025 (intermittent)*

- Designed the machine learning and artificial intelligence courses from scratch (classical ML, planning, deep learning)
- Delivered lectures to ∼120 students per session

Selected Publications/Projects

Please see Google Scholar for the complete list of publications and GitHub for more open-source projects

Toward Understanding In-context vs. In-weight Learning
B. Chan*, X. Chen*, A. György, D. Schuurmans
International Conference on Learning Representations, 2025 (* equal contribution)

Offline-to-online Reinforcement Learning for Image-based Grasping with Scarce Demonstrations
B. Chan, A. Leung, J. Bergstra
CoRL Workshop on Mastering Robot Manipulation in a World of Abundant Data, 2024

A Statistical Guarantee for Representation Transfer in Multitask Imitation Learning
B. Chan, K. Pereida*, J. Bergstra*
NeurIPS Workshop on Robot Learning, 2023 (* equal advising)

JaxL
A Jax implementation to unify different machine-learning paradigms into a single design pattern, used in several publications

RL Sandbox
Reinforcement-learning and imitation-learning algorithms in PyTorch, used in several publications