

EDUCATION	<ul style="list-style-type: none"><li>◇ <b>University of Toronto</b> Honours B.Sc. w/High Distinction · Double Degree: Computer Science Specialist &amp; Mathematics Major SELECTED CS COURSES: COMPUTER VISION(100%), PROBABILISTIC LEARNING(95%), NLP(96%), DEEP LEARNING(91%) SELECTED MATH COURSES: DIFFERENTIAL GEOMETRY(97%), MEASURE THEORY(95%), TOPOLOGY(93%), ANALYSIS(91%)</li></ul>	2017-2022 CGPA: 3.96
RESEARCH	<ul style="list-style-type: none"><li>◇ <b>Optimal division of the genome into regions with cancer specific differences in mutation rates</b> <i>Young A, Chmura J, Park Y, Morris Q, Atwal G. Pac Symp Biocomput. 2020;25:274-285. PubMed PMID: 31797603.</i></li><li>◇ <b>ICE: Information Context Exploration for Sparse MDP's</b> <i>Chmura J, Burhani H, Shi X. (Arxiv ID:2310.06777)</i></li></ul>	
PATENTS	<ul style="list-style-type: none"><li>◇ <b>Multi-Objective Reinforcement Learning For Personalized Client Execution</b> <i>Azam M, Chmura J, Huang H, Yu Z. US Patent No. 18/130776</i></li><li>◇ <b>Multi-Objective Reinforcement Learning with Gradient Modulation</b> <i>Azam M, Chmura J, Huang H, Yu Z. US Patent No. 18/139330</i></li></ul>	
PROFESSIONAL EXPERIENCE	<ul style="list-style-type: none"><li>◇ <b>RBC Capital Markets, AI Lab</b> <i>AI Engineer</i> · Used off-policy learning and concentration inequalities to develop a new order routing policy. · Build order routing framework, integrated into RL system and deployed to production trading over \$500MM. · Researched compression-based self-supervised objectives that accelerate learning in sparse reward MDP's. · Invented a market impact measure grounded in optimal transport theory that attributes information leakage on exchanges using Wasserstein distances. · Wrote a multi-threaded <i>KDB</i> tool that programmatically generates queries to market data gateways, unifying how datasets are generated, shared and validated across assets, models, and teams. · Worked on a low-latency, high-throughput service providing aggregated market features for inference.</li><li>◇ <b>RBC Capital Markets, AI Lab</b> <i>AI Engineer, Intern</i> · Developed a novel multi-objective actor-critic extension to PPO that combines hindsight relabelling, gradient projections and vectorized bellman operators enabling few-shot adaptation to client preferences. · Engineered features and designed reward functions based on optimal execution econometrics research. · Performed rigorous simulation, testing and statistical evaluation preparing model for production. · Created a RL reading group, presented literature to broader teams on a bi-weekly basis.</li><li>◇ <b>Vector Institute for Artificial Intelligence</b> <i>Machine Learning Researcher</i> · Published an information-theoretic algorithm that reduces the number of mutations needed to discriminate cancer by finding genome segmentations that maximize mutual information with cancer type. · Investigated deep ensembles and gradient-based feature importance to better discriminate rare cancers. · Implemented monte-carlo dropout with a Kronecker-factored optimizer for cancer classification.</li><li>◇ <b>Bibbit</b> <i>Full Stack Engineer</i> · Designed a website for reading and publishing, recommendation system for personalized feed.</li><li>◇ <b>Fio Corp.</b> <i>Software Engineer, Intern</i> · Performed verification and validation of edge-based vision system for disease classification.</li></ul>	2022-Present  2020-2021  2019-2020  August 2018  August 2017
SCHOLARSHIPS & AWARDS	<ul style="list-style-type: none"><li>◇ <b>4x Deans List Scholar for Academic Excellence</b> <i>University of Toronto</i></li><li>◇ <b>3x Recipient of Louis Savlov Scholarship for Sciences</b> <i>University of Toronto</i></li><li>◇ <b>Ted Mossman Scholarship for Mathematics</b> <i>University of Toronto</i></li></ul>	2018-2022  2018-2020  2017
TALKS	<ul style="list-style-type: none"><li>◇ <b>Learning Feature Importance for a Deep Learning Cancer Classifier</b> <i>Undergraduate Summer Research Program</i></li></ul>	2019
SELECTED PROJECTS	<ul style="list-style-type: none"><li>◇ <b>Project X 2020: Undergraduate AI Research Competition</b> <i>Research Team, University of Toronto AI.</i> Organized open source datasets and summarized published AI research in infectious diseases.</li><li>◇ <b>Position Based Fluid Simulation</b></li><li>◇ <b>Morse Theory, Sard's Theorem, and Applications</b></li></ul>	