

Alexandre St-Aubin

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Personal website: <https://alestaubin.github.io>

Education

The University of British Columbia

Master of Science in Computer Science

September 2025 – Present

Vancouver, British Columbia, Canada

McGill University

Joint Honours BSc, Mathematics and Computer Science, GPA: 3.85/4.0

Fall 2022 – Winter 2025

Montréal, QC, Canada

- Relevant Courses: Applied Machine Learning, Applied Robotics, Fundamentals of Computer Vision, Honours Convex Optimization, Topics in AI for Robotics, Reinforcement Learning.

Research Experience

Research Interests: Computer Vision, Robotics, Autonomous Vehicles

Research Intern

July 2024 – December 2024

Mila - Quebec AI Institute, Complex Data Lab

- Worked under the supervision of Professors Reihaneh Rabbany (McGill) and Jean-François Godbout (Université de Montréal).
- Conducted research on the societal and political impact of deepfakes, with a focus on the believability of AI-generated media.
- Evaluated state-of-the-art diffusion models to assess the quality and realism of generated images.

Research Intern

May 2024 – September 2024

McGill University, Centre for Intelligent Machines

- Conducted research in long-horizon motion control of robotic arms, supervised by Professor Hsiu-Chin Lin at McGill University.
- Developed a novel method for single-shot learning of long-horizon manipulation tasks.
- St-Aubin, A., Abyaneh, A. and Lin, H.-C., Single-Shot Learning of Stable Dynamical Systems for Long-Horizon Manipulation Tasks.

Directed Reading Program

January 2024 – May 2024

McGill University, Faculty of Science, Dept. of Mathematics and Statistics

- Engaged in a machine learning study and conducted a research project, guided by a graduate student.
- Report: *An Introduction to Supervised Machine Learning*.

Awards & Honors

NSERC Canada Graduate Scholarship-Master's

Held at the University of British Columbia.

2025 – 2026

Amount: 27,000 CAD

(Offer rejected) University of Waterloo financial support

Master of Mathematics program, David R. Cheriton School of Computer Science.

2025 – 2026

Amount: 29,000 CAD / Year

Science Undergraduate Research Award (SURA)

Research funding for full-time research and development activities.

Summer 2024

Amount: 8,700 CAD

Work Experience

Teaching Assistant – Intermediate Algorithm Design and Analysis (CPSC 320) <i>The University of British Columbia, Department of Computer Science</i>	Sept. 2025 – Present <i>Vancouver, BC, Canada</i>
• Hold weekly office hours to answer questions from students. • Hold weekly tutorials to review class material for 20-30 students. • Coordinate a team of undergraduate TAs for test grading.	
Photographer <i>Agence Voltaic inc.</i>	August 2024 – August 2025 <i>Montréal, QC, Canada</i>
• Event photography across all Montreal Universities. View my work at this url: alexstaubinphoto.com	
Course Grader – Honours Linear Algebra (MATH 251) <i>McGill University, Faculty of Science, Dept. of Mathematics and Statistics</i>	January 2024 – April 2024 <i>Montréal, QC, Canada</i>
• Graded the assignments of honours students in MATH 251.	
Intern <i>Institut de la Statistique du Québec (ISQ)</i>	June 2023 – December 2023 <i>Montréal, QC, Canada</i>
• Developed a VBA application which streamlined the process of estimating survey completion times. • Sorted and interpreted open-ended responses using word analysis programs. • Contributed to provincial research studies such as the <i>Québec Health Survey of High School Students</i> (QHSHSS) and the <i>Québec Survey on Tobacco and Vaping Products</i> .	

Relevant Coursework

Adapting PAD to Trifinger Robotic Manipulation in Causal World <i>CPSC 532X – Adaptation and Adaptive Computation</i>	Fall 2025 <i>UBC</i>
• A self-supervised Test-Time Adaptation framework that leverages an auxiliary Inverse Dynamics objective to update the agent's encoder during deployment. • Evaluated the method on the CausalWorld robotic benchmark under two distinct shift types: physical dynamics and spatial distribution. Project page.	
TransCoPhy: Modernizing Causal Physical Reasoning with Transformers <i>CPSC 532Y – Causal Machine Learning</i>	Fall 2025 <i>UBC</i>
• Explored the problem of counterfactual physical reasoning from visual input. • Modernized the existing CoPhyNet architecture (Baradel et al., ICLR 2020) by replacing its RNN core with a Transformer, creating TransCoPhy. Project page.	
Network Interventions to Limit Misinformation Spread on Reddit <i>CPSC 534L – Computing and Learning from Graphs</i>	Fall 2025 <i>UBC</i>
• Investigated network-based interventions to limit misinformation propagation on Reddit using the FACTOID dataset of users and their interactions. Project page.	
Improving Drotrack <i>COMP 558 – Fundamentals of Computer Vision</i>	Fall 2024 <i>McGill University</i>
• Enhanced the performance of a 2020 drone-based tracking paper by implementing techniques like Kalman filters, optical flow, and ORB features. Code and report available here .	
Machine Learning <i>COMP 551 – Applied Machine Learning</i>	Fall 2024 <i>McGill University</i>
• Emotion classification using LLMs, Regularization and model evaluation, Classification of image data with MLPs and CNNs. Code and reports available here .	
Image Deblurring <i>MATH 563 – Honours Convex Optimization</i>	Winter 2024 <i>McGill University</i>
• Deblurred images by implementing convex optimization algorithms such as Spingarn's Method, Primal-dual Douglas Rachford Splitting, ADMM, and Chambolle-Pock in Matlab. Code and report available here .	

Skills

Programming languages: Python, JAVA, C/C++, MATLAB, VBA, R.

Bilingual: French, English.

Other : L^AT_EX, Unix/Linux, Git, ROS, SLURM, SQL, Pytorch, Numpy, Pandas, Excel.