Aidan Li

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Education

MILA / Université de Montréal — **Montreal, QC, Canada**
Masters in Computer Science — *Sep 2025 – Aug 2027 (expected)*
Supervised by Prof. Sarath Chandar and Prof. Ross Goroshin.

University of Toronto — **Toronto, ON, Canada**
H.B.Sc: Computer Science Specialist and Statistics Major — *Sep 2021 – Jun 2025*
cGPA 3.96/4.0. Graduated with High Distinction.

References

[1] **Aidan Li**, Liyan Wang, Tianye Dou, and Jeffrey S. Rosenthal. Exploring the generalizability of the optimal 0.234 acceptance rate in random-walk metropolis and parallel tempering algorithms. *Communications in Statistics - Simulation and Computation*, 0(0):1–28, 2025.

[2] Mohi Reza, Akmar Chowdhury, **Aidan Li**, Mahathi Gandhamaneni, and Joseph Jay Williams. Experimenting with experimentation: Rethinking the role of experimentation in educational design. *3rd Annual Workshop on A/B Testing and Platform-Enabled Learning Research at The ACM Conference on Learning @ Scale*, 2022.

Research Experience

University of Toronto & Vector Institute — **Toronto, ON, Canada**
Supervisor: Prof. Roger Grosse — *Oct 2024 – Aug 2025*
Language model alignment by using tools from probabilistic inference to reduce the probability of harmful outputs.
- Using probabilistic inference to increase the diversity of sampled harmful outputs in RLHF-style training to improve the alignment of language models.
- Second author on a NeurIPS conference submission: collaborated closely on research ideas, exploratory experiments, writing and editing of the manuscript.

University of Toronto & Vector Institute — **Toronto, ON, Canada**
Supervisor: Prof. Rahul Krishnan — *Aug 2024 – May 2025*
Differentiable likelihood-based causal order discovery framework with normalizing flows and Plackett-Luce models.
- Coauthor on a submission to AAAI 2025. Conducted experiments that showed an extension of the class of identifiable post-nonlinear data-generating processes with our method.

École Polytechnique Fédérale de Lausanne (EPFL) — **Lausanne, Switzerland**
Internship Supervisor: Prof. Volkan Cevher — *Jun 2024 – Sep 2024*
Graph convolution-based state space model for processing temporal graphs such as EEG seizure data.
- Conducted a self-directed end-to-end research project (model design, coding, experiments, analysis, manuscript preparation) with light supervision.

University of Toronto — **Toronto, ON, Canada**
Supervisor: Prof. Jeffrey Rosenthal — *Jan 2024 – Jul 2024*
Practical study on theoretical results in Markov chain Monte Carlo optimal scaling.
- First author on a paper in *Communications in Statistics – Simulation and Computation*, contributing to all stages of the project from start to publication.
- Implemented RWM and PT algorithms from scratch with GPU compliance and performance optimization; designed and ran large-scale experiments; and led manuscript writing and revisions through multiple rounds of peer review.

University of Toronto — **Toronto, ON, Canada**
Supervisor: Prof. Joseph Jay Williams — *Mar 2022 – May 2022*
Approaching experimentation as a means to design better educational content, focusing on meta-skills interventions.
- Contributed to the conceptual development, writing, and editing of a workshop manuscript published at ACM Learning @ Scale 2022.

Industry Experience

Royal Bank of Canada **Toronto, ON, Canada**
Data Engineer Intern *May 2023 – Aug 2023*

- Created a microservice leveraging small businesses' inventory data to boost their discoverability and market key products to 13M consumers on Canada's largest loyalty program.
- Developed product bundling algorithm using Graph Convolutional Networks to create opportunities for targeted promotions and cross-selling.

StarHub **Singapore**
Data Science Intern *May 2022 – Aug 2022*

- Developed brand recommender system using Graph Attention Networks to make personalized product recommendations for up to 1 million telecoms users.
- Developed end-to-end unsupervised data clustering pipeline in AWS Sagemaker to identify customer segments from 40,000 users with Gaussian mixture modelling.

Teaching Experience

University of Toronto

STA130H1S: Intro to Statistical Reasoning and Data Science (TA) *Winter 2025*

- Led weekly tutorials, held office hours, and graded exams, tutorials, and project work.

CSC413H5F: Neural Networks and Deep Learning (TA) *Fall 2024*

- Held weekly office hours, managed the course forum and other admin tasks, graded assignments and exams.

Military Service

Singapore Army **Singapore**
Third Sergeant, Basic Military Training Centre *Jan 2020 – Nov 2021*

- Conducted Basic Military Training. Led and managed a platoon of 64 recruits, and supervised 3 junior sergeants; responsible for training delivery, discipline, and performance evaluation.
- Instructed a total of approximately 750 new enlistees in physical training, weapons handling, survival skills, and military procedures, developing strong teaching and communication abilities.

Skills

Programming: Python, R, SQL, JavaScript

Machine Learning Libraries: PyTorch, TensorFlow, JAX, Scikit-learn, PyMC

Tools: Git, LaTeX, Linux, Docker, Slurm/HPC, Weights & Biases, SQL, Bash, Vim, Emacs

Honours and Awards

UofT International Scholar Award: 92,500 CAD *2021 – 2025*

UofT New College Council In-Course Scholarships: 3,000 CAD *2022 – 2025*

EPFL Scholarship of Excellence: 4,800 CHF *2024*

UofT IE Award: 2,500 CAD *2024*

UofT SREP Award: 3,000 CAD *2024*

UofT Scholar: 7,500 CAD *2021*

University of Toronto Dean's List Scholar: No monetary value *2021 – 2024*

UofT Technology Leadership Initiative: 28 selected high-achieving students in CS cohort