Victor Livernoche

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Education

McGill University, PhD in Computer Science   Sept 2024 – August 2028
- GPA: 4.0/4.0
- Machine learning research supervised by Professor Reihaneh Rabbany

McGill University, Master's in Computer Science (thesis)   Sept 2022 – August 2024
- GPA: 4.0/4.0
- Machine learning research supervised by Professor Siamak Ravanbakhsh

McGill University, BS in Computer Science   Sept 2019 – May 2022
- GPA: 3.89/4.0
- Honours Computer Science with Physics minor

Interests

- Generative modeling for images and multimodal generation.
- Theory of energy-based generative models and their applications.
- Anomaly detection and deepfake detection against misinformation.
- Temporal graph representation learning.

Experiences

Research Scientist Student, Mila (Quebec AI Institute) – Montreal, QC   Sept 2022 – Today
Focused on diffusion models and anomaly detection; developed a new anomaly detection method based on diffusion models. Application of model to galactic star anomalies. Member of Mila's Mental Health Committee.

Research Intern, Mila (Quebec AI Institute) – Montreal, QC   May 2022 – August 2022
Parametrization of reinforcement learning environment BabyAi, in Professor Yoshua Bengio's group. **[github]**

Undergraduate Research Assistant, McGill University – Montréal, QC   May 2021 – June 2021
Analyzed data compaction methods in large databases, supervised by Professor Oana Balmau. **[github]**

Research Intern, Tech3Lab, HEC Montréal – Montréal, QC   May 2019 – August 2019
Assisted with administrative research tasks, testing simulations, gaining insight into research lab operations, funding processes, and partner communications. Worked with Professor Pierre-Majorique Léger.

Publications

OpenFake: An Open Dataset and Platform Toward Large-Scale Deepfake Detection   2025
Victor Livernoche, kshatha Arodi, Andreea Musulan, Zachary Yang, Adam Salvail-Berard, Gaétan Marceau Caron, Jean-François Godbout, Reihaneh Rabanny
[UNDER REVIEW] Submitted to NeurIPS D&B 2025
https://arxiv.org/abs/2509.09495

On Diffusion Modeling for Anomaly Detection   2024
Victor Livernoche, Vineet Jain, Yashar Hezaveh, Siamak Ravanbakhsh
In The Twelfth International Conference on Learning Representations **(ICLR 2024) [Spotlight — Top 5 %]**
https://openreview.net/forum?id=lR3rk7ysXz

A Reproduction of Automatic Multi-Label Prompting: Simple and Interpretable Few-Shot Classification   2023

Victor Livernoche, Vidya Sujaya ML Reproducibility Challenge 2022. ReScience C 9.2 (#33)

https://openreview.net/forum?id=t8ZZ2Y356Ix

Awards

CSDC Student Research Grant   2025

$2500 — Grant to cover research expenses for building a modern benchmark dataset for deepfake detection.

Excellence Bursary for Computer Science from the Ministery of Higher Education of Quebec   2021

$1000 — Merit-based award for GPA during the 2020-2021 academic year.