

LUKE ROWE

🏠 r Luke22.github.io • ✉ luke.rowe@mila.quebec • 🌐 RLuke22

EDUCATION

- Mila / University of Montreal** • Montreal, QC Sep 2023 – Present
Ph.D. Computer Science • **Advisors:** Prof. Chris Pal and Prof. Liam Paull
- University of Waterloo** • Waterloo, ON Sep 2021 – Aug 2023
MMath Computer Science • **Advisor:** Prof. Krzysztof Czarnecki
Thesis: FJMP: Factorized Joint Multi-Agent Motion Prediction
- University of Victoria** • Victoria, BC Nov 2020
BSc. (Hon) Computer Science and Mathematics • GPA: 8.96/9.0

EXPERIENCE

- PhD Research Intern** – Torc Robotics May 2024 – Aug 2024
Montreal, QC
• Worked on generative models for data-driven autonomous vehicle simulation.
- Research Assistant** – REAL Lab, Mila Sep 2023 – Apr 2024
Montreal, QC
• Designed a controllable multi-agent simulation framework for autonomous driving scenarios with offline reinforcement learning, based on an encoder-decoder Transformer architecture.
- Research Assistant** – WISE Lab, Univ. of Waterloo Sep 2021 – Aug 2023
Waterloo, ON
• Designed a joint motion prediction framework for autonomous driving scenarios that ranks first on the multi-agent benchmark of the INTERACTION dataset.
- Undergraduate Research Assistant, Tzanetakis Lab** – Univ. of Victoria May 2020 – Apr 2021
Victoria, BC
• Designed Transformer architecture that performed state-of-the-art on the task of automatic chord recognition.
- Junior Software Developer, Intern** – Latitude Technologies Summer 2019
Victoria, BC
• Developed a system to support user-configurable aircraft event notifications in Latitude’s web applications.

PUBLICATIONS

- CtRL-Sim: Reactive and Controllable Driving Agents with Offline Reinforcement Learning**
*Luke Rowe**, Roger Girgis*, Anthony Gosselin, Bruno Carrez, Florian Golemo, Felix Heide, Liam Paull, Christopher Pal
CoRL, 2024
- Amortizing intractable inference in diffusion models for vision, language and control**
*Siddarth Venkatraman**, Moksh Jain*, Luca Scimeca*, Minsu Kim*, Marcin Sendera*, Mohsin Hasan, **Luke Rowe**, Sarthak Mittal, Pablo Lemos, Emmanuel Bengio, Alexandre Adam, Jarrid Rector-Brooks, Yoshua Bengio, Glen Berseth, Nikolay Malkin
NeurIPS, 2024
- FJMP: Factorized Joint Multi-Agent Motion Prediction over Learned Directed Acyclic Interaction Graphs**
Luke Rowe, Martin Ethier, Eli-Henry Dykhne, Krzysztof Czarnecki
CVPR, 2023
- Out-of-Distribution Detection for LiDAR-based 3D Object Detection**
*Chengjie Huang, Van Duong Nguyen, Vahdat Abdelzad, Christopher Gus Mannes, **Luke Rowe**, Benjamin Therien, Rick Salay, Krzysztof Czarnecki*
IEEE Intelligent Transportation Systems Conference, 2022
- Curriculum Learning for Imbalanced Classification in Large Vocabulary Automatic Chord Recognition**
Luke Rowe, George Tzanetakis
International Society for Music Information Retrieval Conference, 2021

TEACHING

Teaching Assistant – *Dept. of Computer Science, University of Waterloo* Fall 2021 – Present
CS 135 (Fall 2021), CS 360 (Winter 2022, Spring 2022, Fall 2022, Winter 2023, Spring 2023)

Teaching Assistant – *Dept. of Computer Science, University of Victoria* Fall 2019
CSC 320

AWARDS AND SCHOLARSHIPS

- NSERC Doctoral Scholarship (\$120,000 CAD) (Sep 2024 - Aug 2027)
- FRQNT Doctoral Scholarship (\$100,000 CAD) (Sep 2024 - Aug 2028)
- Ontario Graduate Scholarship (\$30,000 CAD) (Sep 2021, Sep 2022)
- President's Graduate Scholarship (\$20,000 CAD) (Sep 2021, Sep 2022)
- NSERC USRA (\$5,625 CAD) (May 2020)