

LUCAS PAGE-CACCIA

lucas.page-caccia@mail.mcgill.ca

EDUCATION

Ph.D Computer Science

Winter 2019 -

McGill University

Supervisor : Joelle Pineau

CGPA : 4.0

M.Sc Computer Science (PhD fast-track)

Fall 2017 - Fall 2018

McGill University

Supervisor : Joelle Pineau

CGPA : 4.0

B.S Mathematics and Computer Science

Fall 2014 - Winter 2017

McGill University

CGPA : 3.96

TECHNICAL STRENGTHS

Computer Languages

Python, C#, Java, C, Matlab

Software & Tools

Pytorch, Theano, Tensorflow

RESEARCH INTERESTS

Continual Learning, Sequential Learning

Generative Modeling (LiDAR, Natural Language, Images)

Meta Learning, Unsupervised Learning

WORK EXPERIENCE

Facebook AI Research

March 2020 - December 2021

Visiting Researcher

- Developed new continual learning algorithms designed for realistic settings.
- Worked with doctors from NYU Langone and CHUM (Montreal) to estimate the treatment effect of blood-thinners for COVID-19 using observational causal inference.
- Developed an algorithm to perform online compression from non-iid data.

McGill University

May 2017 - August 2017

Undergraduate Researcher

- Worked on a differentiable simulator for self-driving cars. This includes generating both RGB images and corresponding LiDAR point clouds.

Microsoft, Seattle

May 2016 - July 2016

Software Developer Intern

- Worked with the Customer Relationship Management (CRM) team.
- Added a new feature to the CRM interface called Approval Flow (C#, SQL)

TEACHING EXPERIENCE

African Institute for Mathematical Sciences (AIMS)

Jan 2019

Teaching Assistant

- This was for a two week long Reinforcement Learning class held in Kigali, Rwanda. We prepared several tutorials covering the basics of RL (which can be found [here](#))

McGill University

Jan 2018 - May 2018

Teaching Assistant

- COMP 551 - Applied Machine Learning Class. I gave a few tutorials on the basics of automatic differentiation in Pytorch.

AWARDS

Borealis AI Fellowship

2020-2021

- Selected among 10 fellows for research and academic achievements

Dean's Honour List

2015-2017

PAPER IMPLEMENTATIONS

1. **Pytorch [implementation](#)** of “*PixelCNN++: Improving the PixelCNN with discretized logistic mixture likelihood and other modifications*” **289 stars**
2. **Pytorch [implementation](#)** of “*Glow: Generative Flow with Invertible 1x1 Convolutions*” **88 stars**
3. **Pytorch [implementation](#)** of “*Improving Variational Inference with Inverse Autoregressive Flow*” **59 stars**

PUBLICATIONS

Preprints

1. **L. Caccia**, J. Xu, M. Ott, M.A. Ranzato*, L. Denoyer*, “On Anytime Learning at Macroscale” in *arXiv:2106.09563*
2. **L. Caccia**, J. Pineau, “SPeCiaL: Self-Supervised Pretraining for Continual Learning” in *IJCAI 2021 Workshop on Continual Semi-Supervised Learning (best paper award)*

Published Work

3. **L. Caccia**, R. Aljundi, N. Asadi, J. Pineau, E. Belilovsky “New Insights on Reducing Abrupt Representation Drift in Online Continual Learning” in *the 8th International Conference on Learning Representations, (ICLR) 2022*
4. **L. Caccia**, E. Belilovsky, M. Caccia, J. Pineau, “Online Learned Continual Compression with Adaptive Quantization Modules in *the 2020 International Conference on Machine Learning (ICML)*
5. M. Caccia, P. Rodriguez, O. Ostapenko, F. Normandin, M. Lin, **L. Caccia**, I. Laradji, I. Rish, A. Lacoste, D. Vazquez, L. Charlin “Online Fast Adaptation and Knowledge Accumulation: a New Approach to Continual Learning” in *Advances in Neural Information Processing Systems (NeurIPS) 2020*
6. **L. Caccia**, E. Belilovsky, M. Caccia, J. Pineau, “Online Learned Continual Compression with Adaptive Quantization Modules in *the 2020 International Conference on Machine Learning (ICML)*
7. M. Caccia*, **L. Caccia***, W. Fedus, H. Larochelle, J. Pineau, L. Charlin, “Language Gans Falling Short”, in *the 8th International Conference on Learning Representations, (ICLR) 2020*
8. **L. Caccia**, H. Van Hoof, A. Courville, J. Pineau, “Deep Generative Modeling for LiDAR data”, in *the International Conference on Intelligent Robots and Systems (IROS) 2019*

9. R. Aljundi*, **L. Caccia***, E. Belilovsky*, M. Caccia*, L. Charlin, T. Tuytelaars “Online Continual Learning with Maximally Interfered Retrieval, in *Advances in Neural Information Processing Systems (NeurIPS) 2019*
10. Pierre Thodoroff*, Nishanth Anand*, **Lucas Caccia**, Doina Precup, Joelle Pineau “Recurrent Value Functions” in *the 4th Multidisciplinary Conference on Reinforcement Learning and Decision Making (RLDM) 2019*

* denotes equal contribution