PATRICK NADEEM WARD

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languages: English, French, Arabic

EDUCATION

M.Sc. McGill University   *Sep. 2018 - (Expected) May 2021*
Computer Science

- Cumulative GPA 4.0/4.0 — Advisor: Prof. Doina Precup
- *Graduate Research Award (2018).* **40,000\$** to pursue a Master's in Computer Science at McGill.

B.A. McGill University   *Sep. 2015 - May 2018*
Double major Mathematics and Software Engineering

- Cumulative GPA 3.6/4.0
- *Distinction Award* for being in the **top 25%** of the graduating class.

PUBLICATION

- **P.N. Ward***, A. Smofsky*, A. J. Bose *"Improving Exploration in Soft-Actor-Critic with Normalizing Flows Policies"* Invertible Neural Networks and Normalizing Flows Workshop at **ICML 2019**. One of the **top 10** papers selected for a spotlight presentation.
- J. Chakravorty, **P.N. Ward**, J. Roy, M. Chevalier-Boisvert, S. Basu, A. Lupu, D. Precup *"Option-critic in cooperative multi-agent systems"* Extended Abstract at **AAMAS 2020**.

EXPERIENCE

Research Assistant Mila and McGill University   *Jun. 2018 - Present*

- Implemented a recent advancement in Generative Models called **Normalizing Flows** to model more expressive policy distributions in the Reinforcement Learning setting which resulted in the above workshop publication.
- Co-Implemented a pipeline to train and tune deep reinforcement learning models for Options in generic Multi-Agent settings using High Performance Computing (HPC). Resulted in the above extended abstract publication.

Teaching Assistant McGill University and AI4GoodLab   *Sep. 2018 - Dec. 2020*
Applied Machine Learning, Intro to Artificial Intelligence, Intro to Computer Science

- Hosted tutorials, held office hours and created and graded problem sets to help approximately a hundred student learn various topic in Computer Science and Mathematics.

Data Scientist Intern Société Générale   *May 2017 - Sep. 2017*

- Used Random Forests and ARIMA time-series models to predict potential server crashes.
- Designed a distance metric using word and sentence embeddings to flag legal documents that vary from acceptable standards and created a UI using Flask.
- Conducted a presentation to 20 engineers and managers in the branch, promoting the use of M.L./A.I. in the workplace and their possible applications to various areas at the bank.

PROGRAMMING LANGUAGES AND TOOLS

- Python (4 years) | Java (2 years) | SQL | MATLAB | C | Hadoop | Git (1 year) | Bash | Pytorch