Harsh Satija

School of Computer Science
McGill University

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Education

PhD, Computer Science   2018 – Present
McGill University
Advisor: Joelle Pineau

Master of Science, Computer Science   2015 – 2017
McGill University
Advisor: Joelle Pineau
Thesis: Using Deep Reinforcement Learning for Online Machine Translation

B.Tech, Computer Science and Engineering   2009 – 2013
International Institute of Information Technology - Hyderabad, India

Employment

Research Assistant, PhD   2018 – 2019
Facebook AI Research, Montreal
Worked on fundamental Reinforcement Learning research problems including exploration, transfer learning and building algorithms with safety guarantees.

Research Intern   2017-2017
Google Research, Mountain View
Worked on latent variable generative models for computer system optimization.

Data Scientist   2014–2015
Sokrati, India
Built real-time bidding agents and recommender systems at a digital advertising start-up.

Software Engineer   2013–2014
Amazon, India
Built management and monitoring web services for Amazon.com's merchants.

Scientific works

CONFERENCE ARTICLES

1. **H. Satija**, A. Lazaric, M. Pirotta, and J. Pineau. Group Fairness in Reinforcement Learning. In *European Workshop on Reinforcement Learning (EWRL), 2022. (Oral)*

2. **H. Satija**, P. S. Thomas, J. Pineau, and R. Laroche. Multi-Objective SPIBB: Seldonian Offline Policy Improvement with Safety Constraints in Finite MDPs. In *Advances in Neural Information Processing*

Systems (NeurIPS), 2021.

3. S. Amin, M. Gomrokchi, H. Aboutalebi, **H. Satija** and D. Precup. Locally Persistent Exploration in Continuous Control Tasks with Sparse Rewards. In *International Conference for Machine Learning (ICML)*, 2021.

4. **H. Satija**, P. Amortila, and J. Pineau. Constrained Markov Decision Processes via Backward Value Functions. In *International Conference for Machine Learning (ICML)*, 2020.

5. A. Touati, **H. Satija**, J. Romoff, J. Pineau, and P. Vincent. Randomized value functions via multiplicative normalizing flows. In *Conference on Uncertainty in Artificial Intelligence (UAI)*, 2019.

6. **H. Satija**, and J. Pineau. Fictitious Play for learning Generative Adversarial Networks. In *Reinforcement Learning and Decision Making (RLDM)*, 2017.

PATENTS

1. US Patent 10,650,001 B2: Disaggregating Latent Causes for Computer System Optimization, 2020. M. Hashemi, P. Ranganathan, **H. Satija**.

PRE-PRINTS

1. S. Amin, **H. Satija**, M. Gomrokchi, H. van Hoof, D. Precup. A Survey of Exploration Methods in Reinforcement Learning `arXiv:2109.00157`

2. **H. Satija***, A. Zhang*, J. Pineau. Decoupling dynamics and reward for transfer learning. `arXiv: 1804.10689`

Awards

IVADO Doctoral Excellence Scholarship   2021-2023

Teaching

I have been a Teaching Assistant at McGill University for:

- Reinforcement Learning, COMP-767 : Winter 2019
- Probabilistic Graphical Models, COMP-767 : Fall 2019
- Applied Machine Learning, COMP-551 : Fall 2016, Fall 2017, Winter 2018
- Artificial Intelligence, COMP 424 : Fall 2017, Winter 2017