rupali.bhati@mila.quebec
https://rupalibhati.github.io/
https://github.com/RupaliBhati
+1-418-271-5893

Rupali Bhati

Education

Université Laval — *Quebec, Canada*
Masters, Computer Science (with thesis) — *Sep 2020 - Aug 2022 (Expected)*
• GPA: 4.2/4.0

Delhi Technological University — *New Delhi, India*
Bachelors, Electronics and Communication Engineering — *Aug 2012 - May 2016*
• Percentage: 72.29/100 (WES equivalent 3.55/4.0)

Research Experience

Graduate Research Assistant, Université Laval & MILA
Supervisor : Prof. Audrey Durand — *Sep 2020 - Present*

• Working on disentangling non-stationarity in multi-agent reinforcement learning settings using agent abstraction using the game of Diplomacy.
• Used gradient boosted decision trees to proactively identifying adverse effects of cancer and interpreted them using SHAP values.
• Implemented a risk-averse reinforcement learning method called Conditional value-at-risk Adversarial Reinforcement Learning (CARL) by formulating it as a zero-sum Stackelberg Game.

Research Assistant, Indraprastha Institute of Information Technology - Delhi
Supervisor : Prof. Saket Anand — *Sep 2017 - Aug 2018*

• Trained an autonomous vehicle to smartly adapt communications and planning actions, while achieving large driving utilities using Q-learning.

Professional Experience

Reinforcement Learning Consultant
Multiple Companies — *Feb 2019 - Aug 2021*

• At Bert Labs, applied RL to increase the energy efficiency of a HVAC system. For a leading global FMCG company's headquarters building, using DQN, increased efficiency of their Air-Handling Unit system by over 70% as compared to classical PID logic.
• Conducted a week long workshop to teach fundamentals of RL to employees at Adventum. Consulted on application of RL to improve segmentation in medical images.
• Applied DQN to continually increase account equity for trading in the Foreign Exchange Market.

Domain Expert
UpGrad — *Sep 2018 - Jan 2019*

• Developed an end-to-end solution for a model inventory management problem to meet next-to-next day demand using DDQN.

Data Analyst
KPMG — *Jun 2016 - Aug 2017*

• In collaboration with Microsoft, developed an algorithm using policy iteration for automating 'Dynamic Pricing of Tickets' to maximise revenue and help reduce human effort by upto 70-80%.
• Researched use cases of predictive and descriptive analytics to provide business insights to various government organisations which helped them automate processes and boost efficiency.

Technical Skills

Languages: Python, LaTeX, SQL
Frameworks: PyTorch, TensorFlow
Tools: PyCharm, Tableau, Visual Studio, SQL Server Management Studio

Publications

Interpret Your Care: Predicting the Evolution of Symptoms for Cancer Patients [link]
Rupali Bhati, Jennifer Jones, Audrey Durand
AAAI 2022 Trustworthy AI for Healthcare Workshop

CARL: Conditional-value-at-risk Adversarial Reinforcement Learning [link]
Mathieu Godbout, Maxime Heuillet, Sharath Chandra, **Rupali Bhati** & Audrey Durand
AAAI 2022 Safe AI Workshop

A Reinforcement Learning Approach to Jointly Adapt Vehicular Communications and Planning for Optimized Driving [link]
Mayank K. Pal, **Rupali Bhati**, Anil Sharma, Sanjit K. Kaul, Saket Anand & P.B.Sujit
IEEE ITSC, 2018

Teaching Experience

Teaching Assistant, *GIF-7005: Introduction to ML, Université Laval* — *Fall 2021*
Mentor, Codementor [link] — *Fall 2019 - Summer 2020*
Teaching Assistant, Coding Blocks [link] — *Summer 2018*
Teaching Assistant, UpGrad — *Fall 2018*

Awards

Awarded the IID Artificial Intelligence Additional Tuition Exemption Scholarhop of **$20,000**.

Extra Curricular

Captain, IIITD Basketball Team — *2017 - 2018*
Captain, DTU Basketball Team — *2015 - 2016*

International Experience

Stanford ASES Entrepreneurial Summit: Selected as one of the 35 delegates.
Shell Eco-Marathon Asia at Manila, Philippines: As Vice-President and Head of Electronics at Team DTU Supermileage, helped the team secure position in the top 10 in its category.
Schooling: From U.S.A., Slovakia, Mauritius and India
Languages: English, Hindi, French (intermediate level)