

# Rupali Bhati

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EDUCATION	<b>Université Laval/ Mila</b> Masters, Computer Science (with thesis) • GPA: 4.2/4.0	Quebec, Canada Sep 2020 - Dec 2022 (Expected)
	<b>Delhi Technological University</b> Bachelors, Electronics and Communication Engineering • Percentage: 72.29/100 (WES equivalent 3.55/4.0)	New Delhi, India Aug 2012 - May 2016
RESEARCH EXPERIENCE	<b>Graduate Research Assistant, Université Laval &amp; MILA</b> Supervisor : Audrey Durand	Sep 2020 - Present
	<ul style="list-style-type: none"><li>• Used machine learning models to predict cancer-related fatigue and pain while addressing issues of performative prediction in the time series prediction problem.</li><li>• Working on disentangling non-stationarity in multi-agent reinforcement learning settings using agent abstraction in the game of Diplomacy.</li><li>• 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.</li></ul>	
	<b>Research Assistant, Indraprastha Institute of Information Technology - Delhi</b> Supervisor : Saket Anand	Sep 2017 - Aug 2018
	<ul style="list-style-type: none"><li>• Trained an autonomous vehicle to smartly adapt communications and planning actions, while achieving large driving utilities using Q-learning.</li></ul>	
PROFESSIONAL EXPERIENCE	<b>Reinforcement Learning Consultant</b> Multiple Companies	Feb 2019 - Aug 2021
	<ul style="list-style-type: none"><li>• 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.</li><li>• 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.</li><li>• Worked with CatapulZ to develop RL blue agents to Capture-The-Flag in cybersecurity applications.</li><li>• Applied DQN to continually increase account equity for trading in the Foreign Exchange Market.</li></ul>	
	<b>Domain Expert</b> UpGrad	Sep 2018 - Jan 2019
	<ul style="list-style-type: none"><li>• Developed an end-to-end solution for a model inventory management problem to meet next-to-next day demand using DDQN.</li></ul>	
	<b>Data Analyst</b> KPMG	Jun 2016 - Aug 2017
	<ul style="list-style-type: none"><li>• 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%.</li><li>• Researched use cases of predictive and descriptive analytics to provide business insights to various government organisations which helped them automate processes and boost efficiency.</li></ul>	
TECHNICAL SKILLS	<b>Languages:</b> Python, L <sup>A</sup> T <sub>E</sub> X, SQL <b>Frameworks:</b> PyTorch, TensorFlow <b>Tools:</b> PyCharm, Tableau, Visual Studio, SQL Server Management Studio	

PUBLICATIONS	<p>Summarizing Societies: Agent Abstraction in Multi-Agent Reinforcement Learning <a href="#">[link]</a>  Amin Memarian, Maximilian Puelma Touzel, Matthew D Riemer, <b>Rupali Bhati</b>, Irina Rish  <i>ICLR 2022 From Cells to Societies: Collective Learning across Scales Workshop</i></p> <p>Interpret Your Care: Predicting the Evolution of Symptoms for Cancer Patients <a href="#">[link]</a>  <b>Rupali Bhati</b>, Jennifer Jones, Audrey Durand  <i>AAAI 2022 Trustworthy AI for Healthcare Workshop</i></p> <p>CARL: Conditional-value-at-risk Adversarial Reinforcement Learning <a href="#">[link]</a>  Mathieu Godbout, Maxime Heuillet, Sharath Chandra, <b>Rupali Bhati</b> &amp; Audrey Durand  <i>AAAI 2022 Safe AI Workshop</i></p> <p>A Reinforcement Learning Approach to Jointly Adapt Vehicular Communications and Planning for Optimized Driving <a href="#">[link]</a>  Mayank K. Pal, <b>Rupali Bhati</b>, Anil Sharma, Sanjit K. Kaul, Saket Anand &amp; P.B.Sujit  <i>IEEE ITSC, 2018</i></p>
TEACHING EXPERIENCE	<p><b>Teaching Assistant</b>, GIF-7005: Introduction to ML, Université Laval <i>Fall 2021</i></p> <p><b>Mentor</b>, Codementor <a href="#">[link]</a> <i>Fall 2019 - Summer 2020</i></p> <p><b>Teaching Assistant</b>, Coding Blocks <a href="#">[link]</a> <i>Summer 2018</i></p> <p><b>Teaching Assistant</b>, UpGrad <i>Fall 2018</i></p>
AWARDS	<p>Awarded second place at Rendez-Vous IA Quebec 2022 with a cash prize of <b>\$1,000</b>.</p> <p>Awarded the IID Artificial Intelligence Additional Tuition Exemption Scholarship of <b>\$20,000</b>.</p>
COMMUNITY SERVICE	<p><b>Reviewer</b>, Montreal AI Symposium 2022</p> <p><b>Facilitator</b>, ICLR WiML UnWorkshop Breakout: Machine Learning for Physical Sciences 2022</p> <p><b>Reviewer</b>, ITSC 2018</p>
EXTRA CURRICULAR	<p><b>Captain</b>, IIITD Basketball Team <i>2017 - 2018</i></p> <p><b>Captain</b>, DTU Basketball Team <i>2015 - 2016</i></p>
INTERNATIONAL EXPERIENCE	<p><b>Stanford ASES Entrepreneurial Summit</b>: Selected as one of the 35 delegates.</p> <p><b>Shell Eco-Marathon Asia at Manila, Philippines</b>: As Vice-President and Head of Electronics at Team DTU Supermileage, helped the team secure position in the top 10 in its category.</p> <p><b>Schooling</b>: From U.S.A., Slovakia, Mauritius and India</p> <p><b>Languages</b>: English, Hindi, French (Intermediate level)</p>