

Mansi Maheshwari

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EDUCATION

Mila – Quebec AI Institute, Polytechnique Montréal

Montréal, QC

Ph.D. in Computer Science; Advisor: Sarath Chandar

Sept. 2026 – Present

- Research focus: Continual and Multi-Agent Reinforcement Learning; learning dynamics and self-improvement in RL and language models
- Coursework: Probabilistic Graphical Models

University of Massachusetts Amherst

Amherst, MA

Master's of Science in Computer Science (GPA 4.0)

Aug. 2024 – May 2026

- Thesis: Continual Reinforcement Learning; Advisor: Bruno Castro da Silva
- Coursework: Neural Networks, Reinforcement Learning, Robotics, Algorithms for Data Science, Research Methods, Research Writing, AI Alignment
- Selected as Commencement Speaker for the graduating class [\[video\]](#)

University of Washington

Seattle, WA

Bachelor's of Science in Electrical Engineering

Aug. 2018 – June 2022

- Coursework: Fundamentals of Optimization and Machine Learning, Signal Processing, Statistical Methods for Science, Embedded Systems

PUBLICATIONS

Maheshwari, M., J. C. Raisbeck, and B. Castro da Silva. *AltNet: Addressing the Plasticity–Stability Dilemma in Reinforcement Learning*. Accepted for **oral** presentation at the International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2026. [\[paper\]](#)

Maheshwari, M., B. Castro da Silva, and J. C. Raisbeck. *AltNet: Alternating Network Resets for Plasticity*. In Proceedings of the Conference on Lifelong Learning Agents (CoLLAs), **Workshop** Track, 2025. [\[paper\]](#)

RESEARCH TALKS

Invited Talk, Cohere

April 2026

Presented research on the plasticity-stability dilemma in reinforcement learning [\[video\]](#)

Finalist, Three Minute Thesis Competition

March 2025

Recognized as one of the top 10 students in a university-wide competition, where I presented my research on Continual Reinforcement Learning [\[video\]](#)

RESEARCH AND INDUSTRY EXPERIENCE

Research Assistant (Continual Reinforcement Learning)

July 2024 – Present

Autonomous Learning Lab (Advisor: Bruno Castro da Silva), University of Massachusetts

Amherst, MA

- * Developed a novel deep reinforcement learning architecture that improves continual learning, enhances sample efficiency, and increases safety in non-stationary environments.
- * Evaluated agents on robotics control tasks and game environments (DeepMind Control Suite, MuJoCo).
- * Published as a workshop paper at the Conference on Lifelong Learning Agents (CoLLAs) 2025 and later accepted for **oral** at the International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2026.

Artificial Intelligence Research and Development Intern

May 2025 – Aug 2025

Perception Team, CNH Industrial

Scottsdale, AZ

- * Led the design and development of an efficient, scalable vision architecture unifying object detection and segmentation through a **transformer** based YOLO multihead model for autonomous vehicles.

- * Reduced parameters by $\sim 43\%$, cut inference cost by $\sim 30\%$, and outperformed baselines by $\sim 5\text{-}7\%$.
- * Developed and documented a multi-task architecture that would allow new vision tasks to be added with minimal compute overhead, establishing a scalable foundation for future vision capabilities.

Software Engineer

July 2022 – July 2024

Nordstrom

Seattle, WA

- * Optimized workflow by automating multiple engineering tasks (Java) in distributed systems.
- * Achieved 80% test coverage for large-scale data integrity through JUnit Integration Tests for multiple projects.
- * Led end-to-end development (requirements gathering, design discussions, code reviews, testing, and deployment) of a feature to stop awarding points for alcohol purchase.

PROJECTS

Human Following Robot, Autonomous Cinematography

Feb 2025 – May 2025

Robotics Course

- * Designed and implemented a mobile robot to autonomously follow and film a moving subject.
- * Integrating perception (YOLOv7 for human detection and tracking), path planning (DWA-based trajectory generation), and real-time control (PID-based actuation)

Multi-Modal Conversational Recommender System (LLMs)

Aug 2024 – Dec 2024

Neural Networks Course

- * Designed a Transformer-based sequential movie recommendations on MovieLens 1M with causal masking. Combines text (natural-language queries and movie titles via a pre-trained **LLM**-based sentence encoder) and sequential/collaborative signals (user ID and watch history).
- * Evaluated against Markov chain, SVD collaborative filtering, and popularity baselines using NDCG@K, Precision@K, and Hit Rate@K; the Transformer outperformed all baselines.

TEACHING EXPERIENCE

Instructor, Fundamentals of Artificial Intelligence

May 2025 – July 2025, Feb 2026 – May 2026

University of Washington

Remote

- * Developed the curriculum and designed accessible, visually engaging slide decks and coding exercises.
- * Instructed a 10-day course, consisting of 3-hour lectures, introducing high school students to core AI concepts including machine learning, deep learning, computer vision, large language models, and ethical AI.
- * Guided students in completing final projects synthesizing learned skills.
- * Fostered an inclusive and interactive classroom environment through live polls, quizzes, reflection activities, and curated videos showcasing real-world AI applications to enhance engagement and conceptual understanding.

Subject Matter Expert, AI Curriculum (High School)

Sept 2025 – Present

iCEV Multimedia

Remote

- * Designed curriculum and reviewed lesson plans to ensure accurate, scaffolded content for an introductory AI textbook for high school students.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, R, MATLAB

DL Frameworks: PyTorch, TensorFlow, JAX, Hugging Face Transformers

Systems: CUDA, TensorRT, ROS, Linux

Domains: Deep Learning, Reinforcement Learning, Language Modeling, LLMs, Transformers, Continual Learning

ACADEMIC SERVICE

Reviewer, Reinforcement Learning Conference (RLC')

2026