

Mansi Maheshwari

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EDUCATION

University of Massachusetts Amherst

Amherst, MA

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

Aug. 2024 – May 2026

- **Relevant Coursework:** Neural Networks, Reinforcement Learning, Robotics, Algorithms for Data Science, Research Methods, Research Writing
- **Thesis:** Lifelong Reinforcement Learning; Supervisors: Bruno Castro da Silva, Hao Zhang

University of Washington

Seattle, WA

Bachelor's of Science in Electrical Engineering

Aug. 2018 – June 2022

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

PUBLICATIONS

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), 2025. [\[paper\]](#)

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. [\[paper\]](#)

AWARDS AND SCHOLARSHIPS

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
[\[video\]](#)

Lawrence & Lucille Frey Endowed Electrical Engineering Scholarship

January 2021

Merit-based scholarship given to students at the University of Washington

RESEARCH AND INDUSTRY EXPERIENCE

Research Assistant (Reinforcement Learning and Robotics)

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).
- Adapted the proposed architecture for deployment on real robotic platforms.
- Published this research in workshop at the Conference on Lifelong Learning Agents (CoLLAs) 2025.
- Accepted for oral presentation 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 ~43%, cut inference cost by ~30%, and outperformed baselines by ~5-7%.
- 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.
- Investigated multi-modal perception strategies by fusing image and sensor data, future-proofing the architecture for richer sensing modalities.

Software Engineer

Nordstrom

July 2022 – July 2024

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.

TEACHING AND OUTREACH EXPERIENCE

Subject Matter Expert, AI Curriculum (High School)

iCEV Multimedia

Sept 2025 – Present

Remote

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

Instructor, Fundamentals of Artificial Intelligence

University of Washington

May 2025 – July 2025

Remote

- Co-developed the curriculum and designed accessible, visually engaging slide decks and coding exercises.
- Instructed a 10-day intensive 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.

Writing Tutor, Academic Support Services

University of Washington Writing Center

Sept 2021 – June 2022

Seattle, WA

- Tutored undergraduate and graduate students in academic writing, helping them strengthen clarity, structure, and analytical reasoning across disciplines.

STEM Outreach Ambassador, K–12 & Community Programs

Clean Energy Institute, University of Washington

Sept 2020 – June 2021

Seattle, WA

- Led STEM workshops and outreach events for K–12 students, introducing clean energy concepts and inspiring early engagement with science and engineering.

PROJECTS

Human Following Robot, Autonomous Cinematography

Robotics Course

Feb 2025 – May 2025

- 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

Neural Networks Course

Aug 2024 – Dec 2024

- Designed a Transformer-based sequential movie recommendations on MovieLens 1M with causal masking. Combines text (natural-language queries and movie titles via a 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.

TECHNICAL SKILLS

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

DL Frameworks: PyTorch, TensorFlow, JAX

Systems: CUDA, TensorRT, ROS, Linux

Domains: Deep/Reinforcement Learning, Transformers, Multi-Task Learning