Mansi Maheshwari

206-6077614 | mmaheshwari@umass.edu | LinkedIn

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: Modern Intro, Reinforcement Learning, Robotics, Algorithms for Data Science*

University of Washington — Seattle, WA
Bachelor's of Science in Electrical Engineering — *Aug. 2018 – June 2022*

Work Experience

Research Assistant - Artificial Intelligence — July 2024 – Present
Autonomous Learning Lab, University of Massachusetts — *Amherst, MA*
- Investigated the **plasticity–stability dilemma** in **Reinforcement Learning** agents.
- Explored **mechanistic interpretability** approaches to identify the underlying causes of **plasticity loss**.
- Proposed a novel method enabling agents to adapt rapidly and sample-efficiently, advancing **continual learning**.
- **Published** as a workshop paper at **CoLLAs 2025**; Preparing a full paper submission to **ICLR 2026**.

Artificial Intelligence Research Intern — May 2025 – Aug 2025
CNH Industrial (Autonomous Vehicles for Agriculture), Perception Team — *Scottsdale, AZ*
- Conducted literature review on **multi-task learning** and **multi-head architectures** to reduce compute on edge.
- Integrated object detection and segmentation into a unified **transformer-based YOLO** multi-head model.
- Improved computational efficiency by ∼**43%** (35M → 20M parameters), critical for real-time deployment on edge.

Instructor, Fundamentals of Artificial Intelligence — March 2025 – Jul 2025
University of Washington — *Remote*
- Instructed a 10-day, 30-hour course introducing 25 **high school students** to core AI concepts (ML, DL, CV, LLMs, **ethical AI**) and guided final projects.
- **Developed** curriculum and created **engaging slide decks** and coding exercises to strengthen understanding.
- Fostered an interactive classroom using polls, quizzes, reflections, and **curated** videos on **AI applications**.

Software Engineer — July 2022 – July 2024
Nordstrom — *Seattle, WA*
- Built **predictive models** (machine learning) on large customer data to analyze purchasing patterns.
- **Optimized** workflow by **automating** multiple engineering tasks (Java) in **Agile environments**, like 6-step Points Adjustment process in **distributed systems**, reducing time by 90%.
- Achieved 80% test coverage for large-scale **data integrity** through **JUnit Integration Tests** for 5 projects.
- **Saved Nordstrom 28M** in compliance by leading **end-to-end development** (requirements gathering, design discussions, code reviews, testing, and deployment) of a feature to stop awarding points for alcohol purchase.

Artificial Intelligence Research Intern — Jan 2023 – Feb 2024
HeyMoon — *Remote*
- Conducted a literature review of Explainable-AI (**XAI**) in **LLMs** for transparency in the medical domain.
- Achieved **100%** reliability in deterministic setting with rule-based model, eliminating probabilistic nature of LLMs.
- Communicated research findings and implementations through **architecture diagrams and presentations**.

PROJECTS

Human Following Robot, Autonomous Cinematography — Feb 2025 – May 2025
- Integrated perception (YOLOv7 for detection/tracking), planning (path generation), control (real-time actuation).

Multi-Modal Conversational Recommender System — Aug 2024 – Dec 2024
- Enhanced transparency by integrating LLMs, for explainability, to traditional recommender systems

Technical Skills

Languages: Python, JAX, SQL, Java, C/C++, R, MATLAB, JavaScript
Frameworks and Libraries: PyTorch, ROS, Numpy, Pandas, Matplotlib, scikit learn

Publication

AltNet: Alternating Network Resets for Plasticity, CoLLAs 2025