

Audrey Douglas

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EDUCATION

Massachusetts Institute of Technology , Cambridge, MA	May 2025
<i>Masters of Engineering and Bachelors of Science in Computation and Cognition</i>	5.0 GPA
Coursework: Introduction to Machine Learning, Advances in Computer Vision, Natural Language Processing, Fundamentals of Programming, Cognitive Robotics, Artificial Intelligence, Sensorimotor Learning	
University of Minnesota , Minneapolis, MN	May 2021
<i>Post-Secondary Enrollment Option</i>	4.0 GPA
Coursework: Advanced Algorithms, Linear Algebra, Introduction to Probability, Discrete Math	

PROFESSIONAL EXPERIENCE

Aira , Remote	June 2024 – Present
<i>Machine Learning Research Intern</i>	
<ul style="list-style-type: none">Analyzed use cases of Access AI using various embedding and clustering techniquesAutomated photo reframing instructions for blind and low vision individualsCreated optical character recognition tool for GPT pipelineIntroduced retrieval augmented searching on video call transcripts	
Massachusetts Institute of Technology , Cambridge, MA	June 2022 – Aug 2023
<i>Undergraduate Researcher, Fiete Lab</i>	
<ul style="list-style-type: none">Developed novel computer vision architecture incorporating lateral inhibition and hemisphere separationTrained, finetuned, and adjusted the model for performance improvementsInvestigated how visual overlap contributes to visual recognition	
Massachusetts Institute of Technology , Cambridge, MA	Feb 2023 – Present
<i>Teaching Assistant, Introduction to Machine Learning</i>	
<ul style="list-style-type: none">Assist students with conceptual and coding problems during lab and office hoursReview weekly labs and homework for clarity, focusing on the pedagogy of teaching machine learning	
Gaia AI , Boston, MA	June 2023 – Aug 2023
<i>Robotics Intern</i>	
<ul style="list-style-type: none">Automated computer vision data collection, image quality processing, and machine learning model trainingCreated and deployed an internal website in React.js to monitor product statistics and usageRestructured MongoDB database to incorporate preprocessing and managed S3 image database	
Massachusetts Institute of Technology , Cambridge, MA	June 2022 – Aug 2023
<i>Undergraduate Researcher, Info Lab</i>	
<ul style="list-style-type: none">Spearheaded the development of a simulation platform to generate social interaction videosCreated an experimentation platform using React.js with integrated eye trackingImplemented a machine learning pipeline to predict intentions in social interactions	
Prime Therapeutics , Eagan, MN	May 2021 – July 2021
<i>Automation Intern</i>	
<ul style="list-style-type: none">Automated collection of Miro license information for 1000+ employeesIntegrated into the automation team, learning testing practices and development standardsCollaborated on internal course registration website utilizing React.js	

SKILLS & INTERESTS

Programming: Python, Java, HTML/CSS/JavaScript, Git, PyTorch, Tensorflow, AWS, React.js, MongoDB, LaTeX

Interests: Logic puzzles, Baking, Museums, Architecture, Artificial Intelligence

PROJECTS & INVOLVEMENT

Mimicking Tennis Playstyles - Used generative adversarial imitation learning to copy and blend Atari Tennis playstyles
Pruning Symmetrical Neural Networks - Created method to preserve symmetrical networks during pruning
Predicting LLM Hallucinations - Developed compact transformer with 60% accuracy to predict GPT-3 hallucinations
Writing Quality Judge - Created transformer method for judging writing quality with 73% accuracy
Latent Embedding Research - Studied linear separability of object positions in CNN image embeddings
Forest Fire Navigation - Created a reinforcement learning agent that navigated to a target in a risky environment
HackMIT - Organized a hackathon for 1000+ students, contributing logistical and development work