Ashwin Saraswatula

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Relevant Links: Website | Blog | Linkedin

EDUCATION

Case Western Reserve University — Cleveland, OH
Dual Degree: BA Computer Science, BS Neuroscience; CS GPA: 4.0/4.0 — **December 2025**

PUBLICATIONS

MSE-Break: Steering Internal Representations to Bypass Refusals in Large Language Models
Ashwin Saraswatula, Pranav Balabhadra, Pranav Dhinkar
International Conference on Machine Learning (ICML) Actionable Interpretability Workshop, 2025
Under review at the International Conference on Learning Representations (ICLR) 2026, Main Track

Data Whitening Improves Sparse Autoencoder Learning
Ashwin Saraswatula, David Klindt
Association for the Advancement of Artificial Intelligence (AAAI) XAI4Science, 2026

Bridging the Von Neumann Gap: Why LLMs Haven't Made Novel Discoveries
Ashwin Saraswatula
Association for the Advancement of Artificial Intelligence (AAAI) XAI4Science, 2026

PROFESSIONAL EXPERIENCE

NeuCyte - *ML Research Engineer Intern* — June 2024 - September 2024

- Developed and optimized parallel algorithms using CUDA for GPU acceleration, reducing data processing time by 50% and enabling real-time analytics for large time series datasets
- Led the development of Functional Connectivity maps from 3D Assembloid wells coupled with HD-MEA, eliciting new insights into Parkinson's plaque formation
- Contributed to developing an internal tool that evaluates and compares neural network models to validate and assess their performance for SynFire, NeuCyte's in-vitro target identification software

Progressive Insurance - *Software Engineering Intern* — September 2023 - January 2024

- Implemented AWS Lambda and DynamoDB to automate real-time claims data processing, reducing processing time by 30%
- Engineered secure API endpoints for Progressive's customer portal, enabling real-time policy updates and retrieval for over 1 million users
- Migrated Machine Microservice API from OAuth 1 to OAuth 2, expanding software security through encapsulation

Genomic Privacy @ CWRU - *Full-Stack Engineer* | *Arxiv Research Paper* — May 2023 - January 2024

- Paid work under Professor Ayday to develop an application for researchers to securely publish and analyze Genomic Data for Scientific Collaboration
- Built frontend with React + NodeJS and integrated it with Django + Neo4J Database, enabling over 10 secure university collaborations

RESEARCH AND INVOLVEMENT

Cleveland Clinic Lerner Research Institute - *ML/Neuro Researcher* — July 2023 - Present

- Leading project utilizing hybrid-CNN models to predict the efficacy of CBT and pharmacology on OCD patients from individualized brain EEG data, improving OCD patient outcomes
- Grant proposal with Dr.Wimbiscus and Dr.Falcone under IRB review

President of AI@CWRU — January 2024 - Present

- Led the executive team to organize workshops, reading groups, and research seminars on machine learning, interpretability, and AI safety

LLM Research Group - *Interpretability* August 2024 - Present

Research Intern under Dr.Chaudhary and Dr.Xu

- Investigating whether shifting reasoning from the discrete token space into a continuous latent space improves scientific reasoning for language-based agents
- Enhanced explainability of “harmful” natural language outputs through benchmarking experiments on HarmfulQA and multimodal reasoning tasks, *A100 GPU Cluster*

PERSONAL PROJECTS

AI Molecular Docking Tool(COMET) - Neural Networks

- Implemented a GNN in conjunction with CNN to graphically and spatially view molecules and passed vectorized results into a MLP to predict Protein-Ligand interactions with a 10% higher accuracy than conventional methods
- Won 1st place at CWRU Research Competition: **Awarded $500 Prize**

Mind(EEG) Controlled Car

- Controlled the car through unsupervised learning with PCA and k-means clustering to classify Emotiv EEG signal

SKILLS:

Languages: Advanced in Python, C, C++, Java, HTML, CSS, Assembly
Software: PyTorch, HuggingFace, AWS, Git, Linux, Keras, Pandas, Jupyter, Docker