Rushali Mohbe

413-466-0749 mohbe.r@northeastern.edu LinkedIn GitHub Website

EDUCATION

Northeastern University **Sept 2023 – Present**
Master's in Artificial Intelligence, GPA: 3.92/4.0 *Boston, Massachusetts*

Ramaiah Institute of Technology **Sept 2016 – May 2020**
Bachelor's in Computer Science and Engineering, GPA: 9.39/10 *Bangalore, India*

RELEVANT COURSEWORK

Machine Learning, Artificial Intelligence for Human-Computer Interaction, AI Ethics, Algorithms, Deep Learning, Discrete Mathematics, Probability, Statistics, Operating Systems, Database Systems.

EXPERIENCE

Institute for Experiential AI, Northeastern University **Sept 2023 – Present**
Student Researcher *Boston, Massachusetts*

- Designed an Extract, Transform and Load (ETL) pipeline processing 100,000+ WHO/ProMED outbreak alerts, enabling efficient Large Language Model(LLM) fine-tuning and achieving 92% accuracy in outbreak significance detection.
- Developing a LLM based system to simulate pandemic preparedness, delivering actionable to policymakers.
- Implementing a Retrieval-Augmented Generation (RAG) system, enhancing LLM output relevance by 60% and reducing hallucinations by 80%.

Indian Institute of Science **Aug 2020 – June 2023**
R&D Engineer *Bangalore, India*

- Architected a low-latency, scalable teleoperation system for robot assistants, achieving 350ms average latency for real-time intercontinental control.
- Engineered a privacy-preserving face anonymization solution for video calls, utilizing facial landmark tracking and 3D avatar rendering, ensuring privacy while maintaining 95% of facial expression information.
- Implemented a real-time speech-to-text and phoneme/viseme recognition pipeline, enabling natural robot speech mimicry with 91% accuracy.
- Developed a real-time machine learning model for viseme detection, improving avatar expression accuracy by 75% and enhancing user experience scores by 40%.

PROJECTS

LLM Unlearning Evaluation using Knowledge Graphs *Advised by Dr Samuel Scarpino* **Sept 2024 - Present**

- Developing a quantitative method to evaluate unlearning algorithms for large language models using knowledge graphs by assessing the retention and removal of specific data.

Explaining predictions of heart congestion from ECGs **Sept 2023 - Dec 2023**

- Adapted LIME (Local Interpretable Model-Agnostic Explanations) to interpret ECG-based heart congestion predictions, improving model interpretability.

Generalized aspect-based sentiment analysis **Jan 2020 - May 2020**

- Engineered an NLP pipeline using an unsupervised clustering algorithm for aspect term extraction and sentiment analysis, achieving 87% accuracy on domain-specific reviews.

PUBLICATIONS

LLM Unlearning EKG: Evaluations using Knowledge Graphs **Dec 2024**
19th Women in Machine Learning Workshop @ NeurIPS 2024

An Autonomous Mobile Robot based Tele-Presence System with Augmentation **Mar 2023**
ICRA 2nd Workshop Toward Robot Avatars

SKILLS

Programming: Python, SQL, Flask, JavaScript, C++, Java.
Frameworks: Tensorflow, Keras, PyTorch, Transformers, Langchain, NLTK, OpenCV, OpenGL, React, ROS, Neo4j.
Tools/Utilities: Azure, AWS, Git, Docker, ChatGPT, Llama.

INTERESTS

Nail art, Digital art, Boxing, Volleyball, Baking, Gardening, Aerial Silks, Hula hooping.