Anushka Tiwari

Email Website LinkedIn Github

Summary

PhD student in Data Science specializing in deep learning; interests include continual/lifelong learning, transfer learning, NLP, Token pruning for efficient inference in VLMs/LLMs, and GNN based recommender systems.
Recent work *GRID: Scalable Task-Agnostic Prompt-Based Continual Learning for Language Models framework that boosts backward transfer and reduces prompt-pool growth using gradient-driven selection/compression and task-aware decoding on long sequence of tasks.*
Ongoing Project *Designing prompt-based continual learning frameworks that achieve positive backward transfer, where learning new tasks can even improve performance on earlier ones, by refining previously learned knowledge so it not only remains stable but also benefits from new learning.*
Advised by Prof. Kaiyi Ji

Education

The State University of New York at Buffalo — **Aug 2023 – Present**
PhD in Computational and Data-Enabled Sciences, GPA 3.750/4 — *Buffalo, New York, United States*

Indian Institute of Technology Indore — **Aug 2021 – June 2023**
Master of Science in Mathematics , GPA 8.32/10 — *Madhya Pradesh, India*

ARSD, University of Delhi — **Aug 2018 – June 2021**
Bachelor of Science in Mathematics , GPA 9.216/10 — *New Delhi, India*

Publications

- **GRID: Scalable Task-Agnostic Prompt-Based Continual Learning for Language Models**
  Anushka Tiwari, *Sayantan Pal, Rohini K. Srihari, Kaiyi Ji* — *Submitted ICLR 2026*
- **Heterogeneous Sequel-Aware Graph Neural Networks for Sequential Learning**
  Anushka Tiwari, *Haimonti Dutta, Shahrzad Khanizadeh* — *arXiv*
- **Content-based Art Recommendation Using Multimodal Graph Neural Networks**
  Haimonti Dutta, ***Anushka Tiwari*** — *ICKG 2024*
- **Enhancing imbalance learning: A novel slack-factor fuzzy SVM approach**
  M Tanveer, ***Anushka Tiwari***, *Mushir Akhtar, Chin-Teng Lin* — *IEEE TETCI 2024*

Professional Experience

CHISQUARE LABS — **Kerala, India**
Data Science Intern — *June 2024 – August 2024*

- Developed an AI-driven patient-review prioritization model that analyzed only ∼50% of records yet detected ∼90% of Alzheimer's Disease cases, halving workload and improving efficiency, cost, and outcomes.

Technical Skills

Languages: Python, SQL
Libraries/Frameworks: PyTorch, Transformers, Huggingface, NLTK, Numpy, Scikit-learn, Matplotlib, Seaborn, Pandas, Spacy, Deep Graph

Achievements

- **Secured an All-India Rank (AIR) of 258 in the IIT-JAM Mathematics Examination.** IIT JAM.