

MOHIT SINGH TOMAR

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EDUCATION

Indian Institute of Technology Bombay

July 2024 - Present

PhD in Computer Science and Engineering | Advisor: [Prof. Soumen Chakrabarti](#) | CPI - 8.8/10

Indian Institute of Technology Patna

July 2016 - June 2020

Bachelor of Technology in Electrical Engineering | CPI - 7.41/10

EXPERIENCE

AI-NLP-ML Lab IIT Patna

Sep 2022 – July 2023

Junior Research Fellow | Advisor: [Prof. Sriparna Saha](#)

Patna, India

- Studied the relation between Sarcasm and Dialogue Acts and the role of modality order fusion in these two classification tasks in a multi-modal dialogue setting.
- Developed Plant Care Conversation dataset. It has conversations between user and agent regarding queries related to plants in multi-modal scenarios and build the multi-modal plant care assisting dialogue generation model.
- Studied the role of knowledge graph and patient self-report for disease diagnosis from the conversation between doctor and patient.

OYO Rooms

Aug 2020 – Jun 2021

Software Developer Engineer-1

Remote

- Worked with HMS team, developed and maintained backend services for generating reports in OYO OS.
- Used Java, Spring, Spring boot, Microservice Architecture to develop the backend features of OYO OS.
- Worked with PostgreSQL, MongoDB and Elasticsearch databases.

ACCEPTED PUBLICATIONS

Mohit Tomar, Tulika Saha, Abhisek Tiwari, Sriparna Saha. Action and Reaction go hand in hand! A Multi-modal Dialogue Act Aided Sarcasm Identification (LREC-Coling, Main 2024). [[Paper](#)] [[Code](#)]

Mohit Tomar, Abhisek Tiwari, Tulika Saha, Prince Jha, Sriparna Saha. An EcoSage Assistant: Towards Building A Multimodal Plant Care Dialogue Assistant (European Conference on Information Retrieval ECIR 2024). [[Paper](#)] [[Arxiv](#)][[Code](#)]

Mohit Tomar*, Abhisek Tiwari*, Sriparna Saha. Towards Knowledge-Infused Automated Disease Diagnosis Assistant (Scientific Reports 2024). [[Paper](#)] [[Code](#)]

Mohit Tomar*, Abhisek Tiwari*, Tulika Saha, Sriparna Saha. Your tone speaks louder than your face! Modality Order Infused Multi-modal Sarcasm Detection. In Proceedings of the 31st ACM International Conference on Multimedia 2023 Oct 26 (pp. 3926-3933). [[Paper](#)] [[Code](#)]

COURSE PROJECTS

GNN-based-Retrieval-for-QA [[Code](#)] | *Pytorch*

March - April 2025

- Created a Graph of Passages for each question over the 2WikiMultihopQA dataset.
- Trained the GNN model by using InfoNCE contrastive loss, where graph for current query is treated as positive and remaining graphs in a batch are treated as negative samples.

Signet + Edge Transformer [[Code](#)] | *Pytorch*

March - April 2025

- Reimplemented the Edge Transformer for molecular regression datasets (Zinc12K, Zinc-Full Alchemy, QM9) and CLRS benchmark
- Explored the Signet positional encoding with Edge Transformer which aims to utilize Laplacian eigenvector and make it sign invariant.

Movie Recommendation [[Code](#)] | *Pytorch*

October - November 2024

- Utilized GCN and GAT models for movie recommendation on MovieLens100K dataset.
- To train the model Bayesian Personalized Loss and Max Margin Loss are used. Also to make inference faster Random LSH is used.

SYMPOSIUM ATTENDED

Attended the **Google DeepMind Research Symposium**, held on Jan 27 - 28, 2025