Abhinav S Menon

abhinav.m@research.iiit.ac.in https://github.com/Abhinav271828

2020–2025 **B.Tech. in Computer Science and M.S. by Research in Computational Linguistics,**
International Institute of Information Technology, Hyderabad GPA: 9.2/10
RELEVANT COURSEWORK: Machine, Data and Learning; Introduction to NLP; Advanced NLP; Discrete Structures; Linear Algebra; Probability and Statistics; Algorithm Analysis and Design; Information-Theoretic Methods in Computer Science; Operating Systems and Networks.

2024 **Visiting Researcher,** *University of Cambridge*

2023 **Visiting Student,** *University of Edinburgh*

Publications

2024 ***Analyzing (In)Abilities of SAEs via Formal Languages***
Abhinav Menon, Manish Shrivastava, David Krueger, Ekdeep Singh Lubana
MINT@NeurIPS (spotlight) *2024* [paper] [code]

Follow-up accepted at ***ARR Oct 2024.*** [preprint]

2022 ***Neural models for factual inconsistency classification with explanations***
Tathagata Raha, Mukund Choudhary, Abhinav Menon, Harshit Gupta, K V Aditya Srivatsa, Manish Gupta, Vasudeva Varma
ECML PKDD *2023* [paper]

Selected Research Work

2023 **Barvinok's Algorithm**, *University of Edinburgh* : Dr. Tobias Grosser, Arjun Pitchanathan *[in progress]*. Implemented Barvinok's algorithm for counting integer points in arbitrary polyhedra in MLIR. https://github.com/Abhinav271828/mlir-barvinok

2022 **Mutable Grammars**, *University of Edinburgh* : Dr. Tobias Grosser, Dr. Andrés Goens, Siddharth Bhat. Developing a formalism for mutable grammars, which included creating a parser for ANSI C.

2022 **Superposition in RNNs**, *IIIT Hyderabad* : Dr. Manish Shrivastava. Studying data compression in toy RNNs with hidden states smaller than input sizes. https://github.com/Abhinav271828/superposition-S23

Work Experience

Teaching Assistant : *Discrete Structures* (Dr. Ashok Kumar Das, Dr. Venkatesh Choppella)
Evaluated assignments and exams for over 200 students in topics including abstract algebra, basic cryptography, and formal logic.

Teaching Assistant : *Introduction to NLP* (Dr. Manish Shrivastava)
Evaluated assignments, exams and a project for over 150 students in natural language processing, including statistical and neural methods.

Selected Projects

Dependency Parsing across Languages, https://github.com/sentient-bread/Dependency
Implementing a graph-based dependency parser and analyse its performance on English, Hindi and Sanskrit, along with ablation studies on the subtask of POS tagging.

Algorithms in Haskell, https://github.com/Abhinav271828/hask-algos
Implemented over twenty algorithms, benchmarked them, and analysed the results with respect to the language, the algorithm, and the implementation.

Honours, Awards, and Programmes

2024 Dean's List 2 for Spring Semester

2022 Winter School on Theoretical Computer Science, IIT-D
Visited IIT Delhi and attended talks by researchers on a variety of sub-disciplines of theoretical CS.

2022 Dean's List 2 for Spring Semester

2021 Dean's List 1 for Monsoon Semester

2021 Merit List for Spring Semester

2020 Merit List for Monsoon Semester

last updated: December 1, 2024