

DRUHAN SHAH

Undergraduate Student Researcher

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Hyderabad, India

DruhanShah

druhan-shah

EDUCATION

MS in Computational Linguistics by Research

IIIT Hyderabad

Nov 2021 – Ongoing

BTech (Hons) in Computer Science

IIIT Hyderabad

Nov 2021 – Ongoing

EXPERIENCE

Undergraduate Researcher

Language Technologies Research Centre

May 2023 – Ongoing IIIT Hyderabad

Exploring Mechanistic Interpretability of Language Models using formal languages.

PROJECTS

Numerical Feature Extraction

Amazon ML Challenge

Sep 2024

Devised a novel architecture for a deep neural model to extract numerical features like height, weight, etc. from product images. Achieved an F1 score of 0.693 and achieved Rank 14 in the contest.

Parse Probing with PEGs

Ongoing

Investigating sequence models trained to replicate complex recognition grammars using mechanistic techniques to uncover parse state information.

Indic Morphosemantic Circuits

Course Project: Advanced NLP

Ongoing

Uncovering circuits in monolingual language models for semantic role detection and investigating their role on morphological complexity, particularly with Indian languages.

ContractNLI

Course Project: Introduction to NLP

Implemented architectural changes to baseline models trained to perform NLI on legal documents with evidential spans, achieving near-SotA performance.

VOLUNTEERING

Problem Committee and Jury

Panini Linguistics Olympiad

Jan 2024 – Ongoing

Contributed and tested problems for the Panini Linguistics Olympiad and evaluated submissions for the National and Asia-Pacific rounds.

Coordinator, Theory Group

Theory Group @ IIITH

May 2023 – Jun 2024

Organized discussions and seminars on various topics including theoretical CS, mathematics, music theory and physics.

ACHIEVEMENTS

Amazon ML Challenge
Rank 14 in India

Dean's List Award
Spring '22 and Monsoon '22

International Olympiads
Mathematics, Linguistics, Informatics, Astronomy

SKILLS

Languages:

Python C/C++ JavaScript Lisp
Lua \LaTeX

Libraries and Tools:

Pytorch Transformers React Astro.js
Vim Emacs Git SLURM