Harshit

h-pal.github.io

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Education

- **University of Utah** — Utah, USA
  MS in Computer Science — *Fall 2023 – Fall 2025*
- **University of Delhi** — Delhi, India
  Bachelor of Science (Honours) Computer Science; GPA: 8.473/10.0 — *Aug. 2019 – July. 2022*

Research Interests

Vision & Language, Continual Learning, AI4SG, Machine Learning & Deep Learning

Publication(s)

- **An Object Localization based Dense Image Captioning Framework in Hindi**
  Santosh Kumar Mishra, **Harshit**, Sriparna Saha, Pushpak Bhattacharyya
  ACM Transactions on Asian and Low-Resource Language Information Processing

Research Experience

- **University of Utah** — Utah, USA
  Independent Research Study, Prof Ziad Al-Halah — *September 2023 - Present*
  - **Vision & Language**: Working on how to leverage large language models to improve the current object detection models in zero-shot setting.
- **Indraprastha Institute of Information Technology-Delhi** — Delhi, India
  Research Intern — *January 2022 - July 2022*
  - **Vidhaan**: Worked on Long-Sequence legal text processing. Built a high-quality corpus of Indian laws to better the natural language understanding of Indian laws.
  - **Speaking Quest**: Developed an automatic score evaluator for speech responses in a quiz for Benesse Holdings Japan.
- **Stanford University** — Remote
  Research Volunteer — *October 2021 - December 2021*
  - **Wearipedia**: The Wearipedia project aims to aggregate information about wearable devices in a research context. Worked on medical grading systems designed by Food and Drug Administration (FDA) for wearables and medical mobile applications.
- **Indian Institute of Technology Patna** — Patna, India
  Research Assistant — *Mar 2021 - August 2021*
  - **Dense Image Captioning for Hindi Language**: Worked on first of a kind dense image captioning framework that simultaneously localizes and describes regions of an image in the Hindi language. Developed the captioning network of the architecture for generating localized captions using LSTMs.
  - **Abstractive Text Summarization using Continual Learning Approach**: Built the data splitting pipeline for CNN and DailyMail datasets using the Word Mover's Distance and Cosine similarity for a continual learning approach in recurrent neural networks.

Industry Experience

- **Bobble AI** — Gurugram, India
  AI Software Engineer — *June 2022 - June 2023*
  - **Conversational Intelligence**: Automated the manual sentiment analysis annotation process using BERT. Sped up the overall annotation process by 20.8%.
  - **Super Apps**: Fine-tuned BERT to build a real-time news classifier for the super application pipeline.
  - **Vector Search Engine**: Scaled MilVus to 1 Billion datasets to extract meaningful business insights from raw data.
  - **Internal QnA Pipeline**: Designed a pipeline for the internal QnA testing of ML models.

- **Active Learning**: Speed up the current data annotation process for Super Apps with the help of uncertainty-based active learning approaches.
- **Trending Keyword Extractor**: Used a combination of zero-shot classifier and semantic search technique to extract the most relevant and popular keywords from the huge ACD data dump, to gain insights and identify new trends.

Programming Skills

- **Languages**: Python, C++
- **Libraries**: PyTorch, Hugging Face, Keras

Services

- **ICONIP 2022**: Served as an extended reviewer for ICONIP 2022.