Harshit

http://github.com/h-pal

Email : harshitpal0844@gmail.com
Mobile : +91-844-750-2675

Education

- **University of Delhi** — Delhi, India
  Bachelor of Science (Honours) Computer Science; GPA: 3.40 (8.49/10.0) — *Aug. 2019 – July. 2022*

Research Interests

Vision & Language, Natural Language Processing, Machine Learning & Deep Learning

Research Experience

- **Indraprastha Institute of Information Technology-Delhi** — Delhi, India
  Research Intern — *January 2022 - Present*
  - **Vidhaan**: Working on Long-Sequence legal text processing. Building a high-quality corpus of Indian laws to better the natural language understanding of Indian laws.
  - **Speaking Quest**: Working on 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. Implemented the captioning network of the architecture for generating localized captions using LSTMs.
  - **Abstractive Text Summarization using Continual Learning Approach**: Developed 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.

Publications

- SK Mishra, **Harshit**, S Saha, P Bhattacharyya: An Object Localization based Dense Image Captioning Framework in Hindi. ACM Transactions on Asian and Low-Resource Language Information Processing, accepted for publication.

Projects

- **Automatic neural image captioning**
  - Implemented an encoder-decoder based inject architecture for the Xception-LSTM model to generate captions for images.
  - Improved the performance of the model by about 2-3% by using pre-trained ImageNet weights for Xception encoder and Stanford's GloVe word embedding for word representation.
- **Predicting programming language of StackOverflow Questions using NLP**
  - Created an LSTM classifier to predict the programming language of questions posted in Stack Overflow.
  - Considered the title and the body of a question to make a prediction and effectively obtained 82.34% precision on the unseen test set.

Programming Skills

- **Languages**: Python, C++
- **Libraries**: PyTorch, Keras, NumPy, Pandas, Matplotlib, NLTK, Scikit-Learn, spaCy