

# Hybrid Architecture using CNN and LSTM for Image Captioning in Hindi Language.

- multi Layer CNN-LSTM Model.
- 34.64% and 29.13% in term of BLEU score (unigram) and BLEU score (Bigram)
- early attempts : template Method.
- uses Transfer Learning - Based Model . to recognise object.
- recognise object → using CNN Model . ( VGG-16 ) → dropout rate → 0.3.
- generate description → using RNN Model

## Results.

- experiments was performed on Flickr8K. Hindi dataset.
- 8000 training Image.
- 1000 reserved for ~~training~~ validation & testing.
- 25 epochs.
- Table 2 on page 9 contains BLEU score.

### Model 1.

BLEU score (unigram) → 24.95%  
(bigram) → 5.39%.

### Model 2.

unigram 25.77%  
Bigram 14.74%.

### Model 3.

unigram 33.58%  
Bigram 26.47%.

### Model 4.

unigram 34.64%  
Bigram 29.13%