



# News Headline Generation



To evaluate neural models (LSTM, Attention, Transformer) for generating accurate and fluent news headlines.

## Affiliations

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## INTRODUCTION

News headline generation is a key task in NLP that involves summarizing articles into concise, informative titles. It requires understanding context, grammar, and relevance. This study explores neural architectures to improve headline quality and generation efficiency.

## DATASET

- [Click here to access the Kaggle News Headline Generation Dataset](#)

## RESULTS

- Transformers achieved the highest accuracy and fluency in headlines.
- Attention-based LSTM models performed better than plain LSTM.
- LSTM without attention showed limited performance.
- Transformers were faster during inference but took longer to train.
- Metric scores (BLEU, ROUGE) clearly support these findings.

## CONCLUSION

Transformer outperformed LSTM and Attention models in generating accurate, fluent headlines. Attention mechanisms greatly enhanced relevance, showing their value in text summarization.

## GROUP MEMEBRS

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## GITHUB REPO.

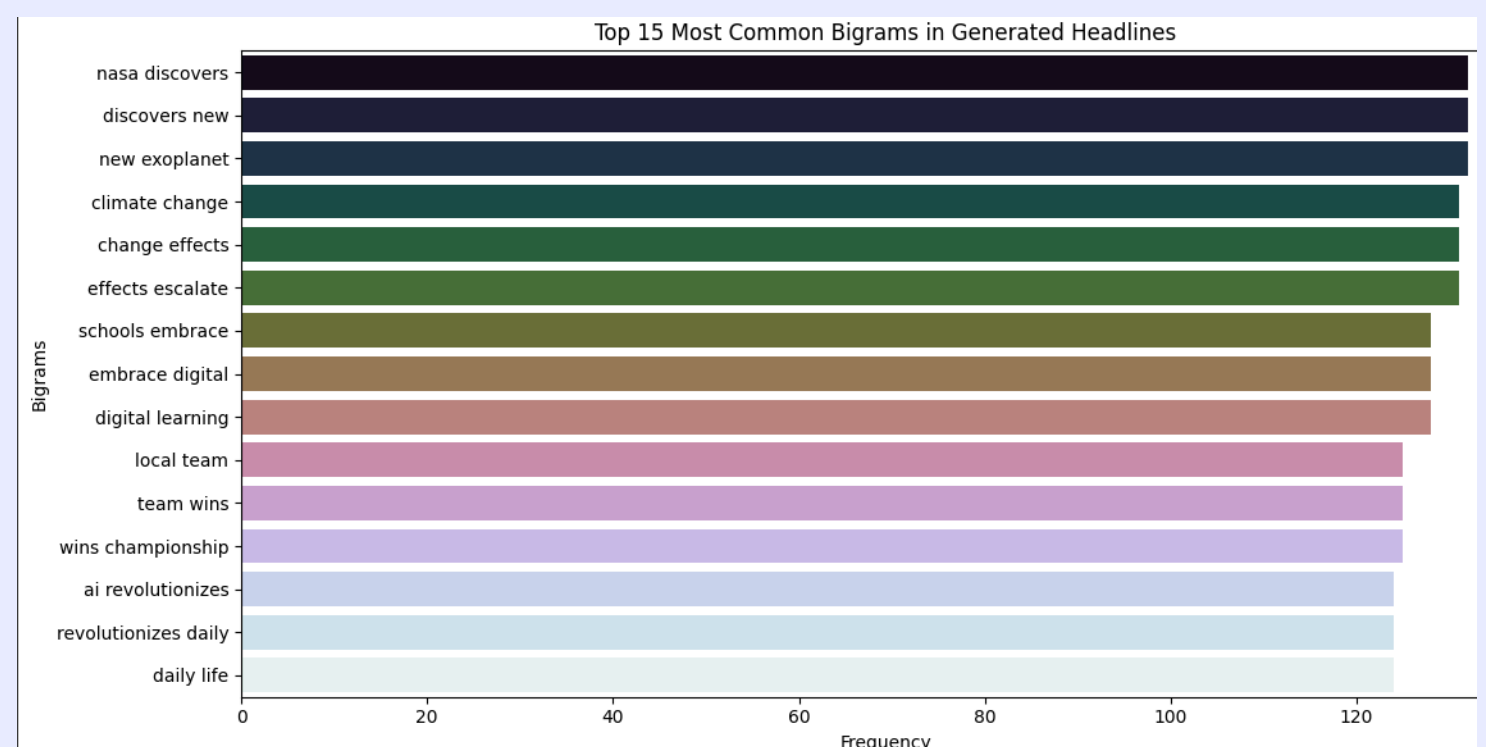
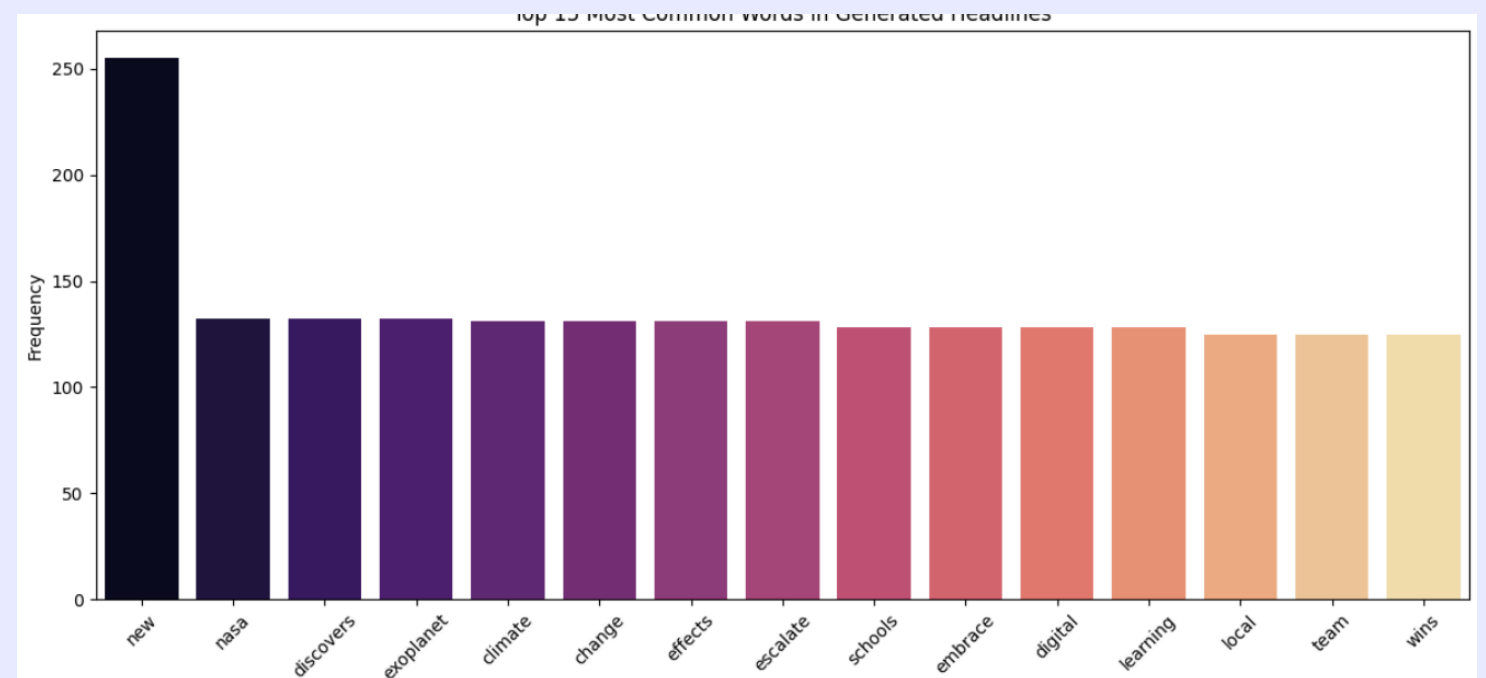
- [Click here for GitHub Repo](#)

## METHODOLOGY

To implement and compare encoder-decoder architectures for news headline generation:

- LSTM/GRU without Attention
- Bahdanau/Luong Attention-based models
- Transformer with Self-Attention

## Top 15 Most Common words and Biagrams Generated headlines



## REFERENCES

LSTM/GRU:

- [Sequence to Sequence Learning with Neural Networks](#) (Sutskever et al., 2014)