

Image Caption Generation

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Introduction

Image caption generation is a task that involves recognizing the context of an image and describing it in a natural language like English.

Libraries

- numpy
- matplotlib
- tensorflow
- keras

Technology stack

- Python 3.8.5
- Google Colab
- GitLab
- Flask
- LaTeX

Approach

- Data collection and preprocessing
- Extract the feature vector from all images
- Tokenizing the vocabulary
- Defining the CNN-RNN model
- Training the model
- Testing the model

Learnings

- Concept of Embeddings
- Concatenating CNN with LSTM
- Transfer Learning

Challenges

- Feature extraction from images
- Building the model
- Improving accuracy

Statistics

- Lines of code - 226
- Number of functions - 6

GitLab Repository



ImageCaptionGeneration_MLProject



Project ID: 27006904

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↩ 14 Commits ↗ 1 Branch ↗ 0 Tags 📁 19.6 MB Files 📁 19.6 MB Storage

main

ImageCaptionGeneration_MLProject

History

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Training the model and plotting graphs

18wh1a1219 authored 1 hour ago

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Name	Last commit	Last update
📄 ImageCaptionGener...	Defining the model	3 days ago
📄 ImageCaptionGener...	LaTeX Presentation	14 hours ago
📄 ImageCaptioningFin...	Training the model and plot...	1 hour ago
📄 Image Caption GUI...	GUI	15 hours ago
📄 Image Caption Ge...	Updated Model	2 days ago

References

- Dataset
<https://www.kaggle.com/shadabhussain/flickr8k/>
- <https://artificialintelligence.odles.io/blogs/ai-powered-image-caption-generator/>
- https://www.tensorflow.org/tutorials/text/image_captioning

Demo...