

**Academic Session: 2022-23**

**3R Miniproject Activity**

**Image Caption Generator with CNN & LSTM**

**Abstract:** Image Caption Generator with CNN & LSTM is a Deep learning project. Image caption generation is a system that comprehends natural language processing & computer vision standards to recognize the connection of the image in English. The project goal is to come up with a caption for an image. “Image captioning is the process of generating descriptions about what is going on in the image”. Our project model will take an image as input and generate an English sentence as output. The project involves training a convolutional neural network (CNN) to extract features from images, and then using a recurrent neural network (RNN) with a long short-term memory (LSTM) architecture to generate captions based on those features. The model is trained using a large dataset of image-caption pairs. For the image caption generator, we will be using the Flickr\_8K dataset. The advantage of a huge dataset is that we can build better models. image caption generators have a wide range of applications and can help improve efficiency, accessibility, and accuracy in various industries including: Social media, Education, Advertising, News and media, Healthcare, Entertainment, Security.

**Keywords:** Deep learning, Image caption, Convolutional Neural network (CNN), Recurrent neural network (RNN), Long short term memory(LSTM), Computer vision, natural language processing.

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