JC BOSE UNIVERSITY OF SCIENCE & TECHNOLOGY,FARIDABAD

Department of Computer Engineering

A

Minor Project Synopsis

On

IMAGE CAPTIONING

Bachelor of Technology
in
Computer Engineering

By

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Under supervision of

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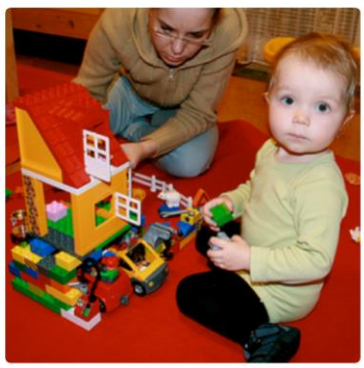
IMAGE CAPTIONING

1. Introduction

Image Captioning is the process of generating textual description of an image. It uses both **Natural Language Processing** and **Computer Vision** to generate the captions..
For example:

"man in black shirt is playing guitar."

"construction worker in orange safety vest is working on road."



"two young girls are playing with lego toy."

The dataset will be in the form [**image → captions**]. The dataset consists of input images and their corresponding output captions.

2.Applications

Image captioning has various applications such as recommendations in editing applications, usage in virtual assistants, for image indexing, for visually impaired persons, for social media, and several other natural language processing applications. We can create a product for the blind which will guide them travelling on the roads without the support of anyone else. We can do this by first converting the scene into text and then the text to voice. Both are now famous applications of Deep Learning.

CCTV cameras are everywhere today, but along with viewing the world, if we can also generate relevant captions, then we can raise alarms as soon as there is some malicious activity going on somewhere. This could probably help reduce some crime and/or accidents.

3.Objectives of the Project:

The main objective of the project is to generate the caption about the given image using different deep learning algorithms such as **Convolution Neural Networks, Recurrent Neural Networks, Transfer**
Learning, Gradient Descent Backpropagation, Overfitting, Probability, Text Processing, Python syntax and data structures, Keras library, etc.

4.Tools Required/Platform Used :

Python, opencv-python, keras, tensorflow, numpy,jupyter Notebook, VS Code

5. Brief Profile of the Team

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