P.E.S. University
Dept. of Computer Applications
Session: Jan -May 2020

VI Semester
Project Work - UE17MC652
Synopsis

Title: Caption Generator

Tools & Technology:

- **Hardware Requirements**

Hardware	Specification
Processor	Intel(R) Core(TM) i7-6500U
Hard Disk	1 TB
Ram	8 GB
Keyboard & Mouse	Standard PS/2 Keyboard & ELAN I2C Filter Driver

- **Software Requirements**

Purpose	Tools & Technology
Frontend	HTML, CSS, Bootstrap
Backend	Flask 1.x
Language	Python 3.7
IDE	Jupyter Notebook, VS Code

Abstract: Caption Generator is a Machine Learning Application which identifies the action portrayed in the given image. The generated caption will describe about the image that will say what kind of actions is taking place in it. This project involves computer vision and natural language processing concepts to recognize the context of an image and describe them in a natural language like English. The objective of the project is to build a working model of Caption Generator by implementing CNN with LSTM.

Submitted by:

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Internal Guide Name and Designation	Guide Signature with date
Dr. S Thenmozhi	

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WEEKLY REPORT

Week No:**01**		
From: 20**/01/2020**		To: 25**/01/2020**
Details of Work done 1. Problem formulation 2. Decided the title for the project 3. Literature survey on the outline of methodologies to be used 4. Decided the tools and technologies required for the project 5. Decided the modules of the project. 6. Thought about the application in the real world 7. Prepared PPT for the title presentation		
..... **Signature of Internal Guide with date**		..... **Signature of Chairperson with date**

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WEEKLY REPORT

Week No:**02**		
From: 27**/01/2020**		To: 01**/02/2020**
Details of Work done 1. Researched about CNN and LSTM. 2. Started learning about CNN and LSTM from tutorials. 3. Learned about the dependencies needed in the application. 4. Learned how to load images.		
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WEEKLY REPORT

Week No:**03**		
From: 03**/01/2020**		To: 08**/02/2020**
Details of Work done 1. Imported the image dataset and its respective corpus. 2. Configured the GPU memory for training purposes. 3. Imported the required libraries. 4. Plotted few images and their captions from the dataset. 5. Cleaned captions for further analysis. 6. Cleaned captions for further processing.		
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WEEKLY REPORT

Week No:**04**

From: 10**/01/2020** To: 15**/02/2020**

Details of Work done

1. Learning new algorithms and technologies
   Detailed description: Learning about how CNN and LSTM can be implemented in my project. Learning the flask framework to design the web page.
2. Installing tools - Flask
   Benefits and usage: Used for building UI for the ML Application.
3. Creating sample pages to test the functionalities provided by the flask framework.
4. Started creating a simple web page with HTML and CSS to show how the application will be once the ML Algorithm is integrated with it.
5. Plotting the top 50 words that appear in the cleaned dataset.
6. Adding start and end sequence tokens for each captions.
7. Loading VGG16 model and weights to extract features from the images.
8. Deleting the last layer of the model.
9. Started extracting features from the images.
10. Prepared PPT for first presentation.

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