ICG SCRIPT

Hello every one my name is sham Johari I am going to explain further slides that is

LSTM

- LSTM (Long short-term memory) is a type of RNN which is capable of working with sequence prediction problems.

- It is used for the prediction of next world in Google search. our system is showing the next word based on previous text.

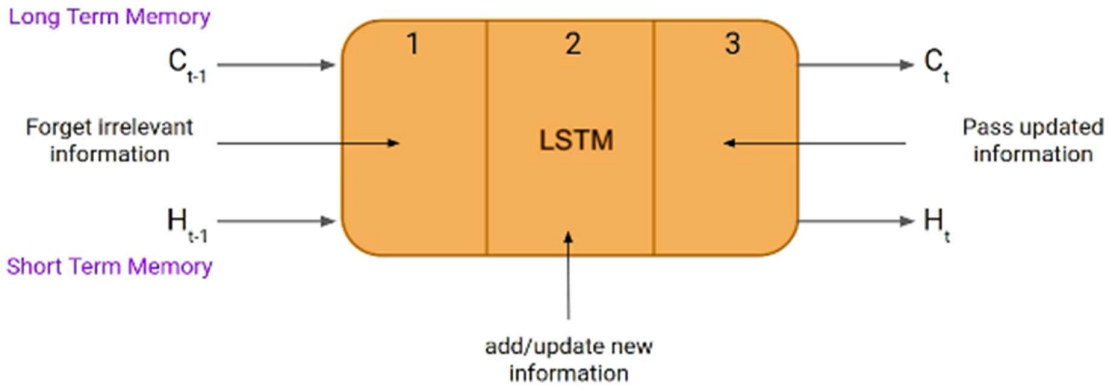
For example, when we search anything on Internet, after typing one word, we get the recommendation of next relevant word.

- LSTM is used to carry out relevant information and to discard non-relevant information.

  Thes we will see detail in LSTM cell Structure.

Next slide please

LSTM CELL



- It is the Structure of LSTM Cell
- The LSTM network cell consists of three parts, as shown in the image, and each part performs an individual function.
- These three parts of an LSTM unit are known as gates.
- The first gate is called **Forget gate, the**
- second gate is known as **the Input gate**
- and the last one is **the Output gate**.

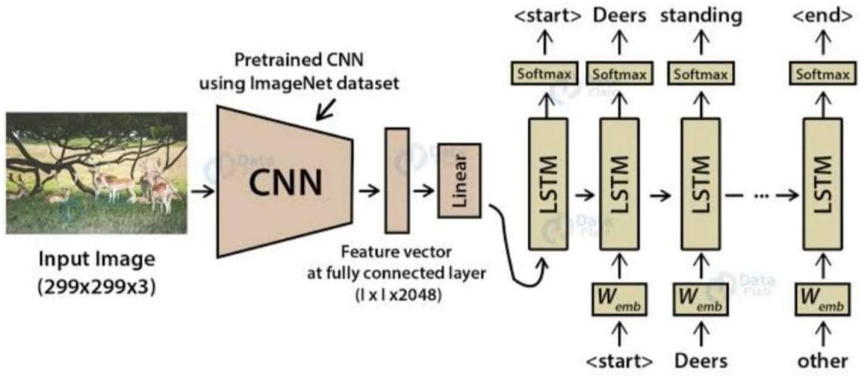
- Just like a simple RNN, an LSTM also has a hidden state
- In addition to that, LSTM also has a cell state
- Here the hidden state is known as Short term memory, and the cell state is known as Long term memory.

- In a cell of the LSTM neural network, the first step is to decide whether we should keep the information from the previous time step or forget it this job is done by the forget gate

- The input gate is used to quantify the importance of the new information carried by the input

- the function of Output gate is to generate relevant word ,That word is our output

MODEL – IMAGE CAPTION GENERATOR



Output Caption : Deers are resting!

- This is the working diagram of our model.
- In that we use the technology that is CNN&LSTM.
- As my colleagues already told, the working of CNN
- CNN has three layers, Convolutional layer, Polling layers and Fully connected layer Using these three layers, CNN extract the feature from the images, And store it into the feature vector.
- Features are linearly arranged in linear vector.
- LSTM will use the Features Extracted from CNN help to generate a caption of an image.
- the softmax function is used to convert the output into a probability distribution.

- For example, we give the input image to our model.
- CNN model extract the main features from that image and store it into a Feature Vector.
- Hear features is dear.
- On that features LSTM generate the next relevant word.
- Here, the relevant world is standing.
- And finally model Gives the caption as deers are resting.

Next Slides please.

LITERATURE REVIEW

This is the literature review of our project.

- We study our first paper, The title is **Image caption generator using CNN and LSTM**. And the author are **M Pranay Kumar, V. Snigdha, R Nandini and Dr B. Indira reddy**. Published In the year of **2022**

  The paper proposes an image captioning approach that uses a combination of CNN and LSTM networks with an attention mechanism.
  The attention mechanism helps the LSTM to focus on specific parts of the image while generating the caption.

- 2 Our Second research paper is **Image Captioning Generator Using CNN and LSTM (GUI Application)** And the author are **Rohit Pawar, Omini Jadhav, Rutuja Nalage.** Published In the year of **2022**

  The paper presents an image captioning application that uses a pre-trained CNN and LSTM to generate captions. And develop a user-friendly GUI that allows users to input an image and view the generated caption.
  the authors demonstrate that the application is able to generate captions for a variety of images.

- 3 Our third research paper is **Deep image captioning using an ensemble of CNN and LSTM based deep neural networks** And the author are **J.A. Alzubi, R. Jain, P. Nagrath.** Published In the year of **2021**

The paper suggests using a combination of CNN and LSTM based DNN to generate captions. by training multiple models on the same dataset and combining their outputs.

The outputs of these models are then combined using a weighted average to generate the final caption.

This is from my side the further slides will be handle by miss Megha Chopade

Thank you !!