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**Computer Science Department**

**Visual Question Answering**

# A Conversational Dialogue Model (Chatbot)

## Team

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Introduction

 In recent years, there has been a lot of progress in AI problems at the intersection of NLP and Computer Vision. One problem that has garnered a lot of attention recently is Image Captioning. However, the task is not well suited to track the progress of AI since image captions are nonspecific, and its automatic evaluation is still an open problem. Another such problem is Visual Question Answering. In this task, the input is an image and question based on the image, and an output is the answer of the question.

## Objective

## Predict the answer of a given question related to an image

## in

## computer vision studies methods for acquiring, processing, and understanding images. In short, its aim is to teach machines how to see. On the the other hand, NLP is the field concerned with enabling interactions between computers and humans in natural language.

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## Text-based Q&A

## Describing Visual Content.

## Work Plan

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| Search & Learning | From October to December |
| Analysis & Design | from January to February |
| Implementation | from March to May |
| Testing | from May to July |

1.Search and Learning phase:

-searching for appropriate papers.  
- Learning Basics of machine learning.  
- Studying Deep learning for Computer Vision and Natural language processing (recurrent neural network, conventional neural network).

2. Analysis & Design phase:

- Feature extraction from input sentences.

 - Convolutional Neural-Network for object detection and recognition in the given image.

3. Implementation phase:

- Using Python and libraries like (Numpy,  TensorFlow)..

4. Testing phase:

- Measuring the system’s accuracy.

## References

## [1] Chenyue Meng and Yixin Wang, “Image-Question-Linguistic Co-Attention for Visual Question Answering”,2016.

## [2] Alisha Rege and Payal Bajaj C, “From Vision to NLP: A Merge”,2017.

## [3] Ronghang Hu and Jacob Andreas and Marcus Rohrbach, “Learning to Reason: End-to-End Module Networks for Visual Question Answering” , 2017.

## [4] Jiasen Luand Jianwei Yang and Dhruv Batra , “Hierarchical Question-Image Co-Attention for Visual Question Answering” , 2017.

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