

MEMOTION ANALYSIS

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OVERVIEW













1. Title

i Memes Classification using CNN and LSTM in a functional neural network.

2. Problem definition

i In the last few years, the growing ubiquity of Internet memes on social media platforms such as Facebook, Instagram, and Twitter has become a topic of immense interest. Memes, one of the most typed English words (Sonnad, 2018) in recent times. Memes are often derived from our prior social and cultural experiences such as TV series or a popular cartoon character. These digital constructs are so deeply ingrained in our Internet culture that to understand the opinion of a community, we need to understand the type of memes it shares. This project is about recognizing the text of a meme and from the picture and the text, machine should choose the subject of the picture. We have 3 tasks here :

1. Decide the meme either is positive or negative
2. Decide the meme is humorous or sarcastic and offensive
3. The third task is to quantify the extent to which a particular effect is being expressed. Details of such quantifications is reported in the Table underneath.

	sarcastic	humorous	offensive
not (0)			
slightly (1)			
mildly (2)			
very (3)			

3. Data Set

i There is a data set that is gathered by SemEval in a [GitHub](#) repository. it has image and text of the memes and the labels (answers). like all data sets, this one needs preprocessing too; we have to make input and labels for each task. For the first task labels should be one hot encoded to positive and negative. For the second one, we have to set the category of meme and for the last one labels has 3 answers. if data set were not enough for this task we can gather another data set from websites like [9GAG](#).

4. Evaluation Metrics

i For the Task1, and Task2, we will use averaged F1 score across all the classes (Positive/Negative-Sentiment and Sarcasm/Humor/Offensive/Regular- Semantic Analysis) with macro-averaged recall, since the latter has better theoretical properties than the former, and provides better consistency. For the Task3, we will use averaged Mean Absolute Error across all the classes.

5. Baseline Method



For Task-A the baseline is 50%, if we choose the answers randomly. In Task-B the baseline is 33%, because we have 3 answers. The baseline for Task-C is a little bit tricky because the machine has to answer to 3 questions in one time and each of them has 4 options.