Memotion Analysis

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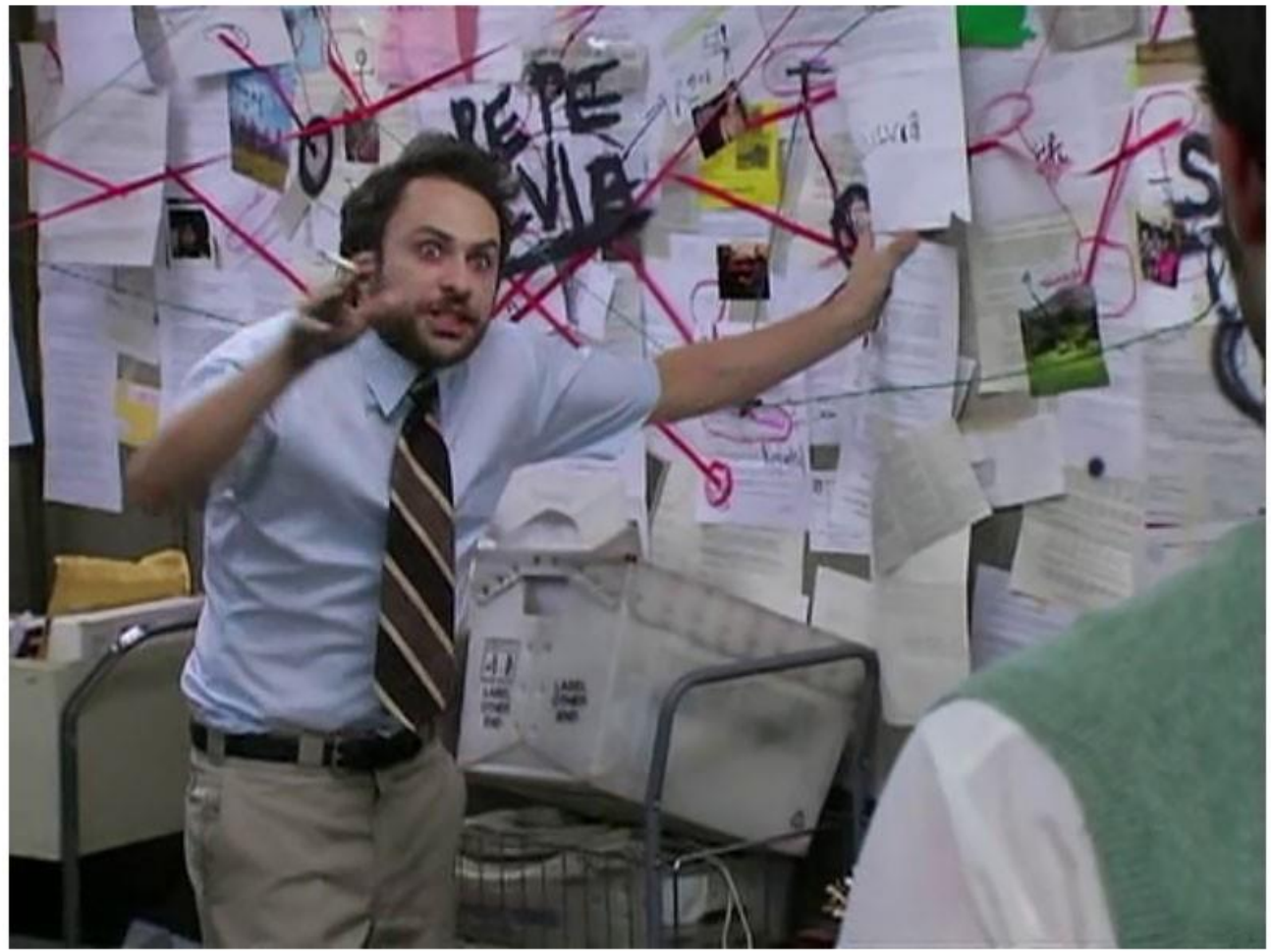
What’s Meme

A **meme** (/miːm/ *MEEM*[1][2][3]) is an idea, behavior, or style that spreads by means of imitation from person to person within a culture—often with the aim of conveying a particular phenomenon, theme, or meaning represented by the meme.

Me trying to explain meme culture to my Mom

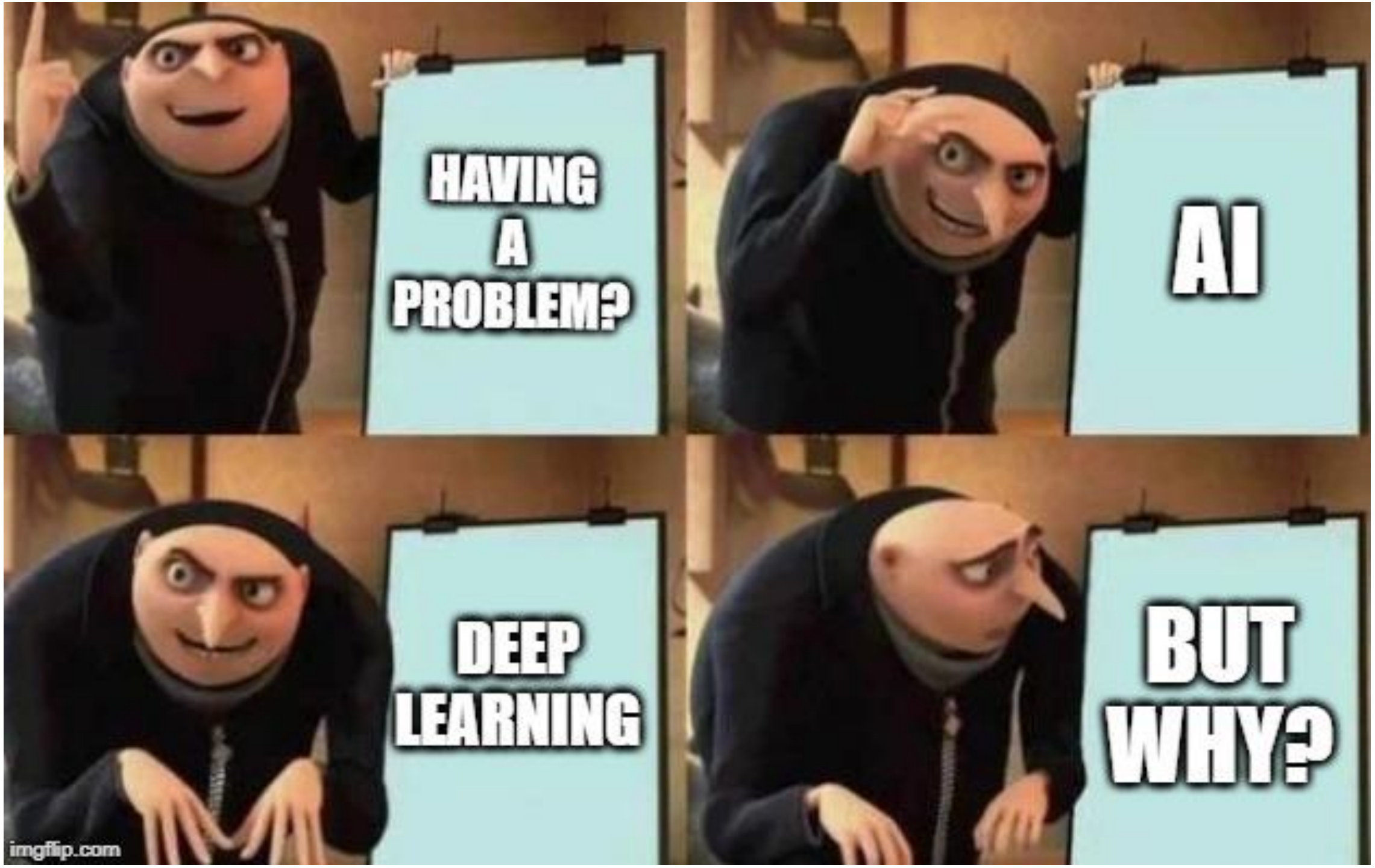


Why do we need sentiment analysis ?

Why?

- Offensive meme
- Racism
- Society Analysis

How to Do it?


HAVING A PROBLEM?
AI
DEEP LEARNING
BUT WHY?
imgflip.com

What do we have

- Image
- Text

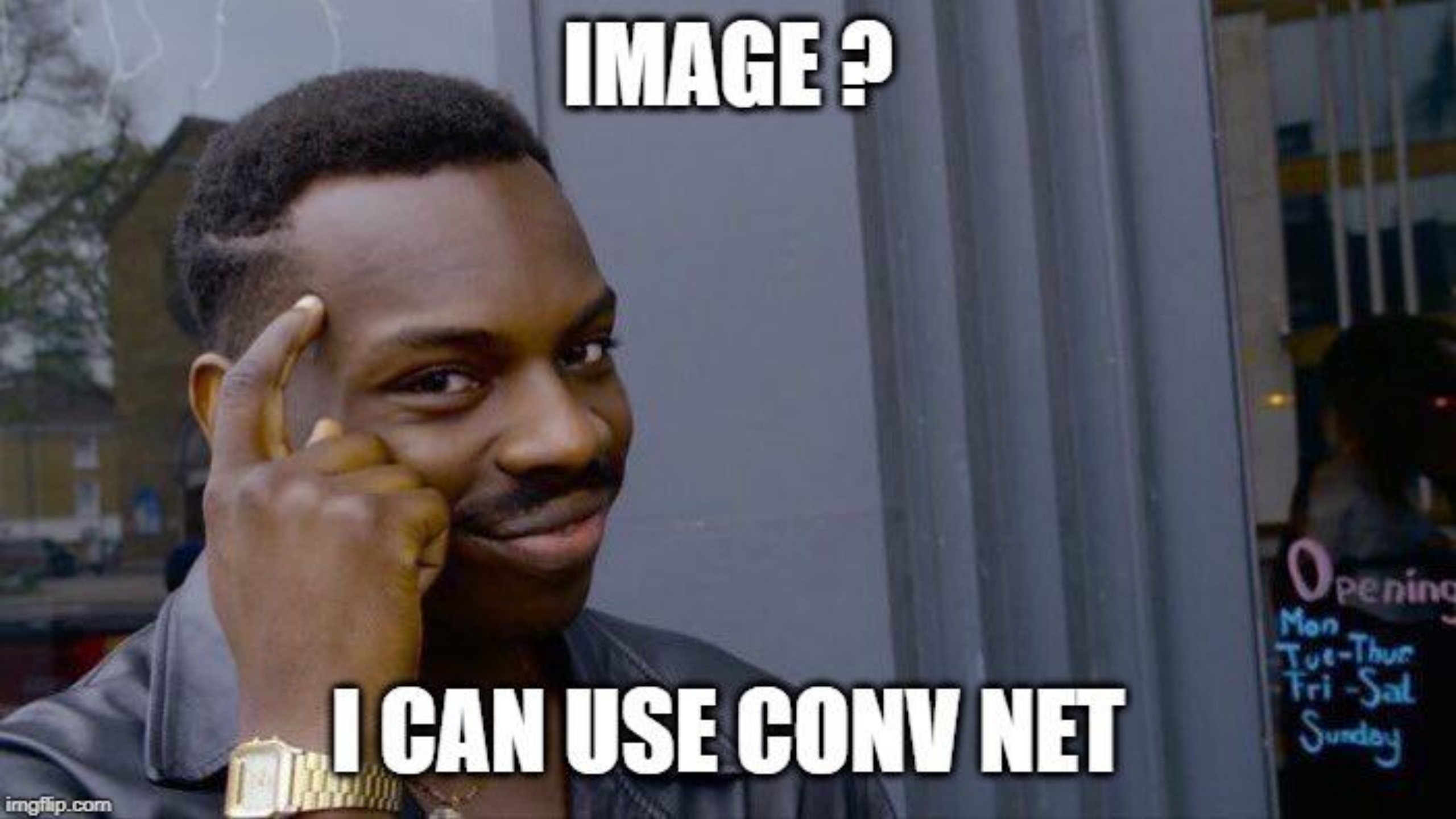


IMAGE ?
I CAN USE CONV NET
Opening
Mon
Tue-Thur
Fri -Sat
Sunday
imgflip.com

Text

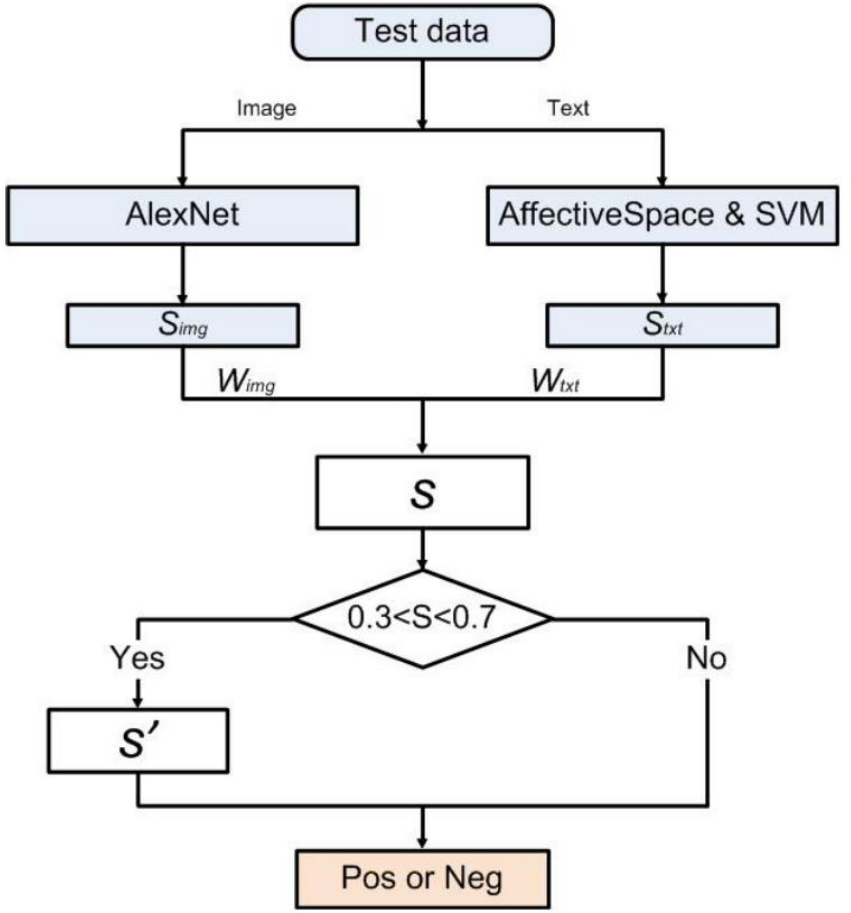
- Sentiment
  - Can be covered initially by word2vec
- Patterns
  - Can be covered by LSTM and Conv1D

Related Works

Text-Image Sentiment Analysis

Accuracy : 80 %

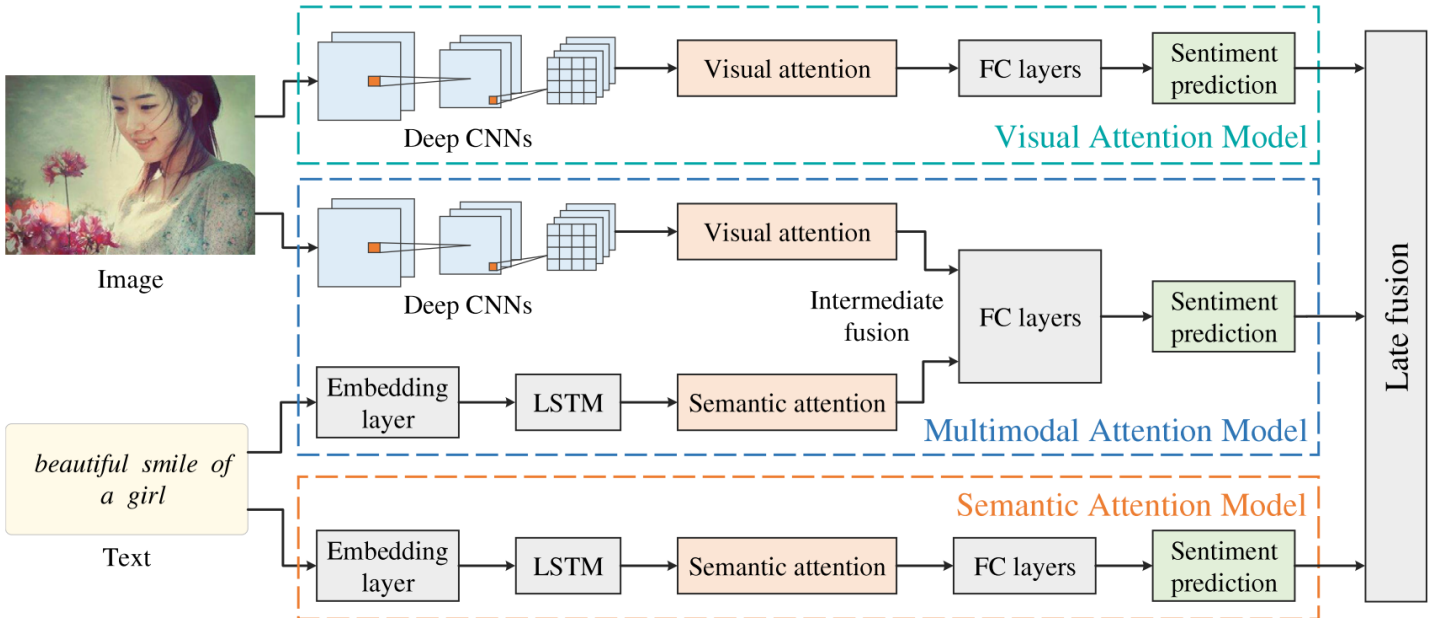
- Flickr Image Dataset



Image–text sentiment analysis via deep multimodal attentive fusion

Accuracy : 86.9 %

- Getty Image Dataset



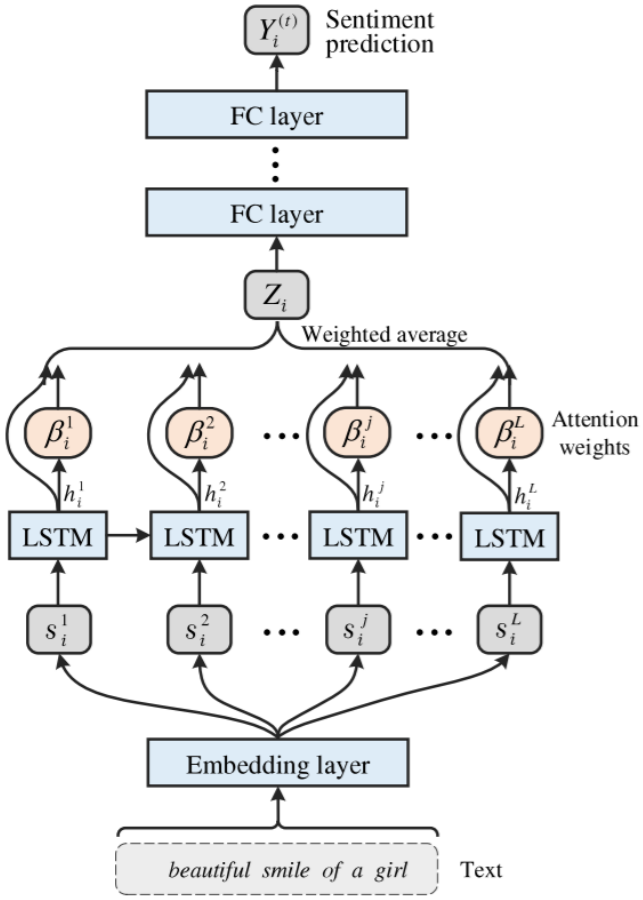
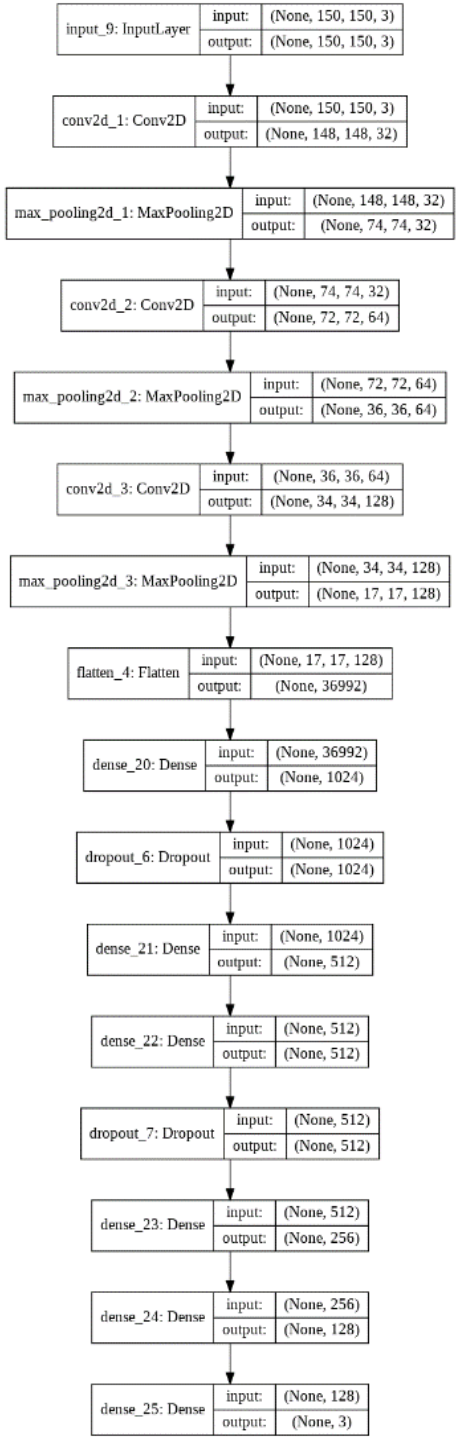


Fig. 4. The architecture of the semantic attention model.

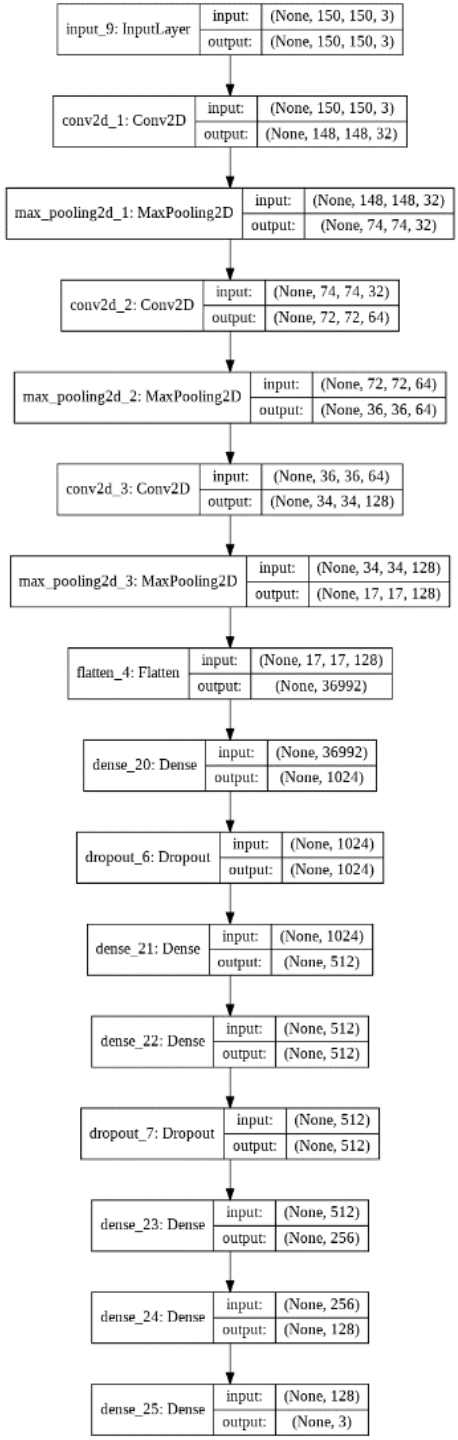
How I did it?

I used only images



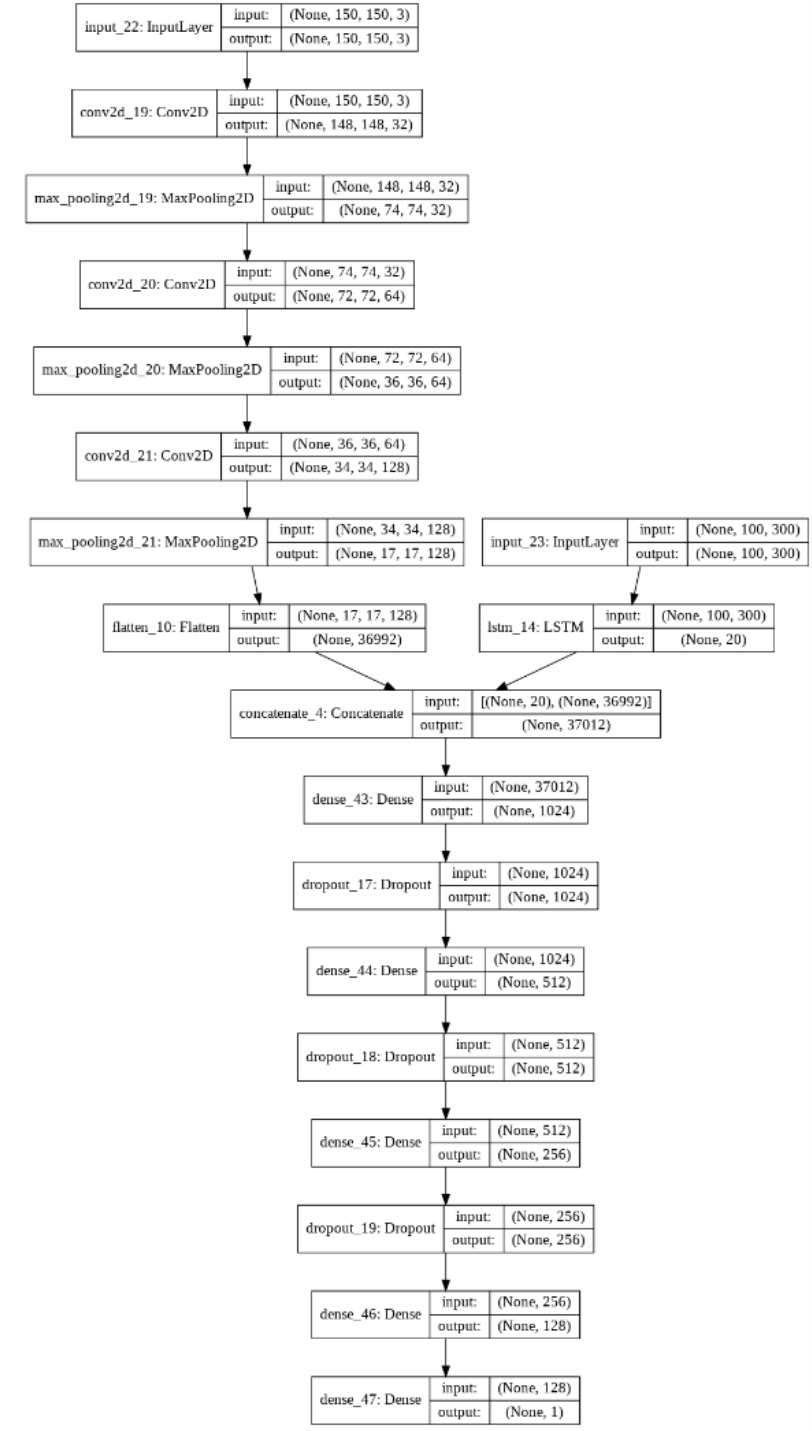
I used only images

Accuracy : 55 %



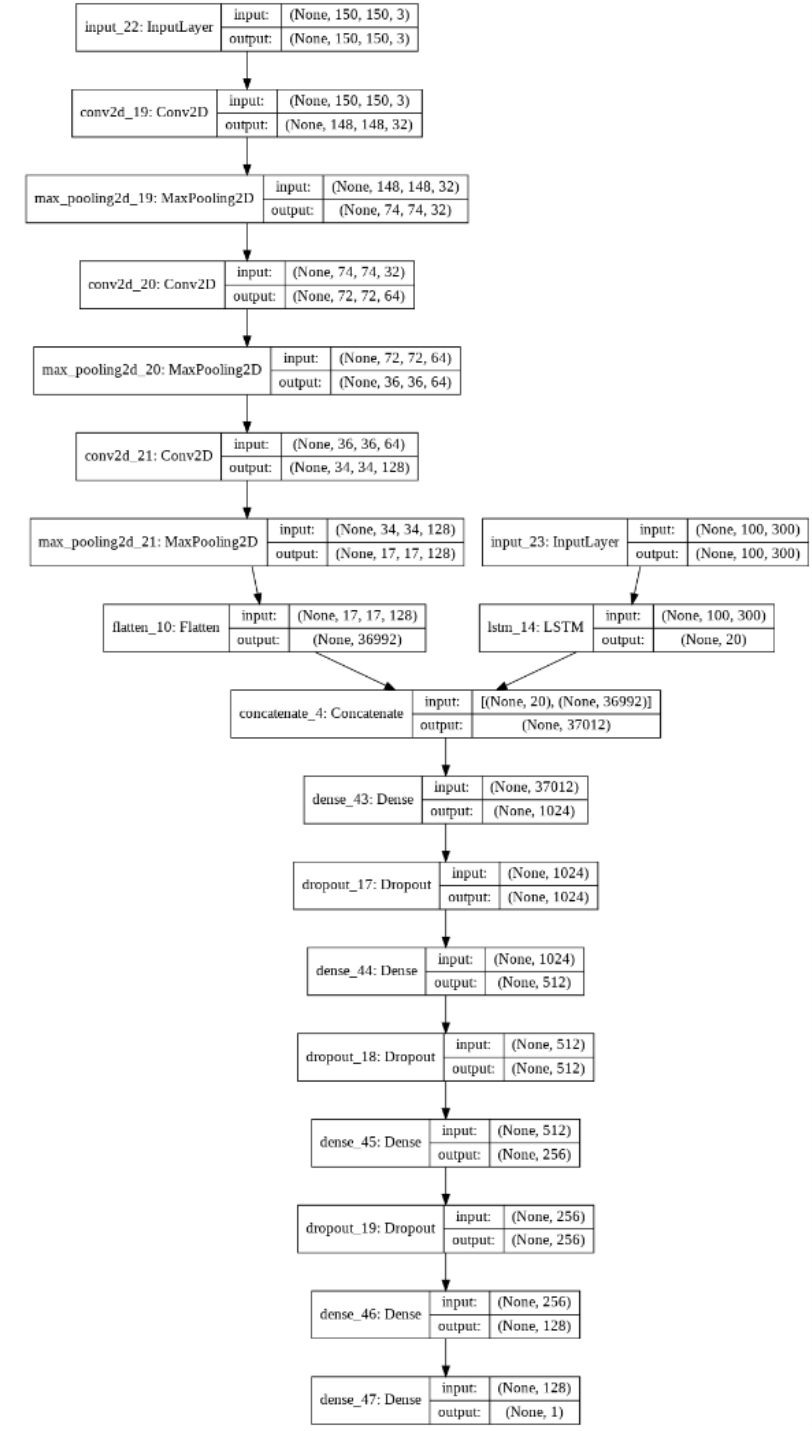
6000 TEXTS DATASET WHEN I ONLY USED IMAGES

Images and google w2v

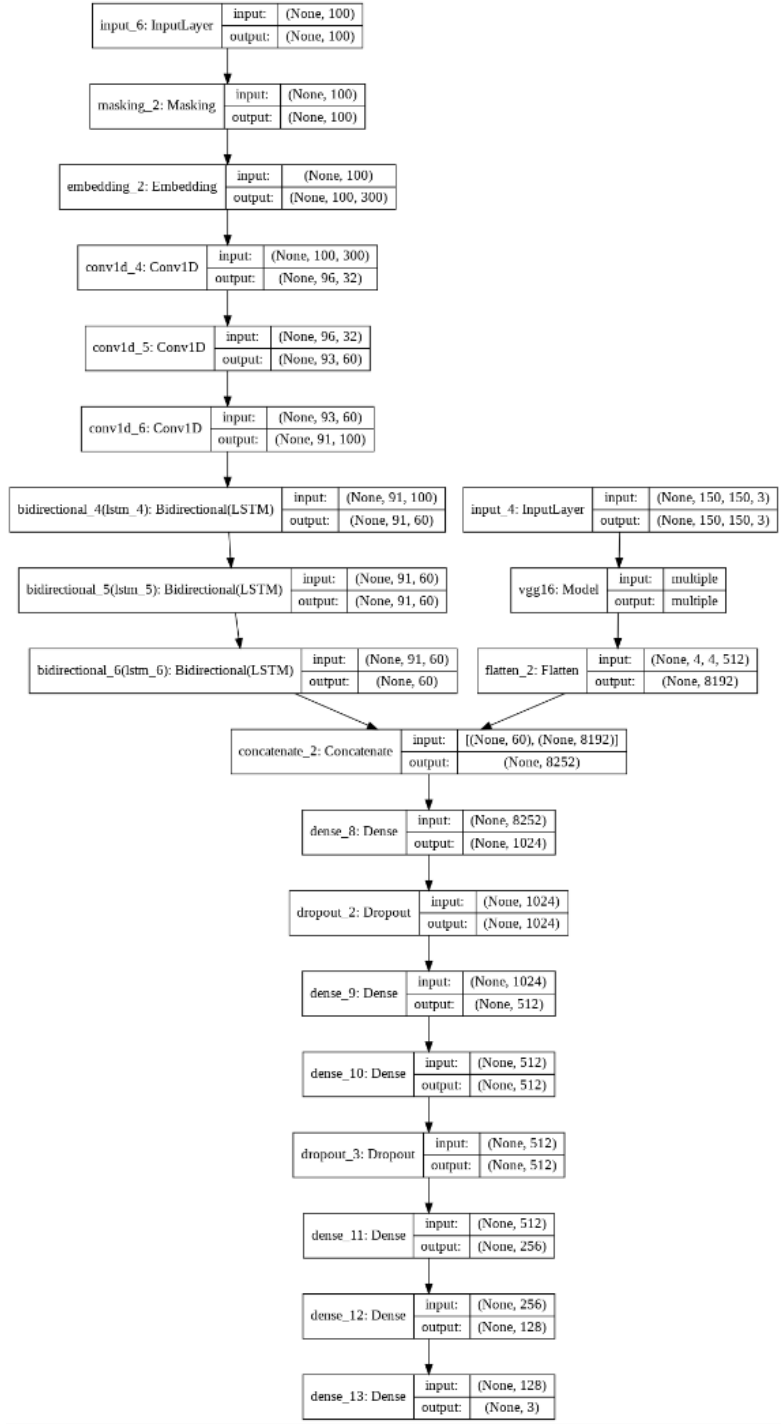


Images and google w2v

Accuracy : 64 %

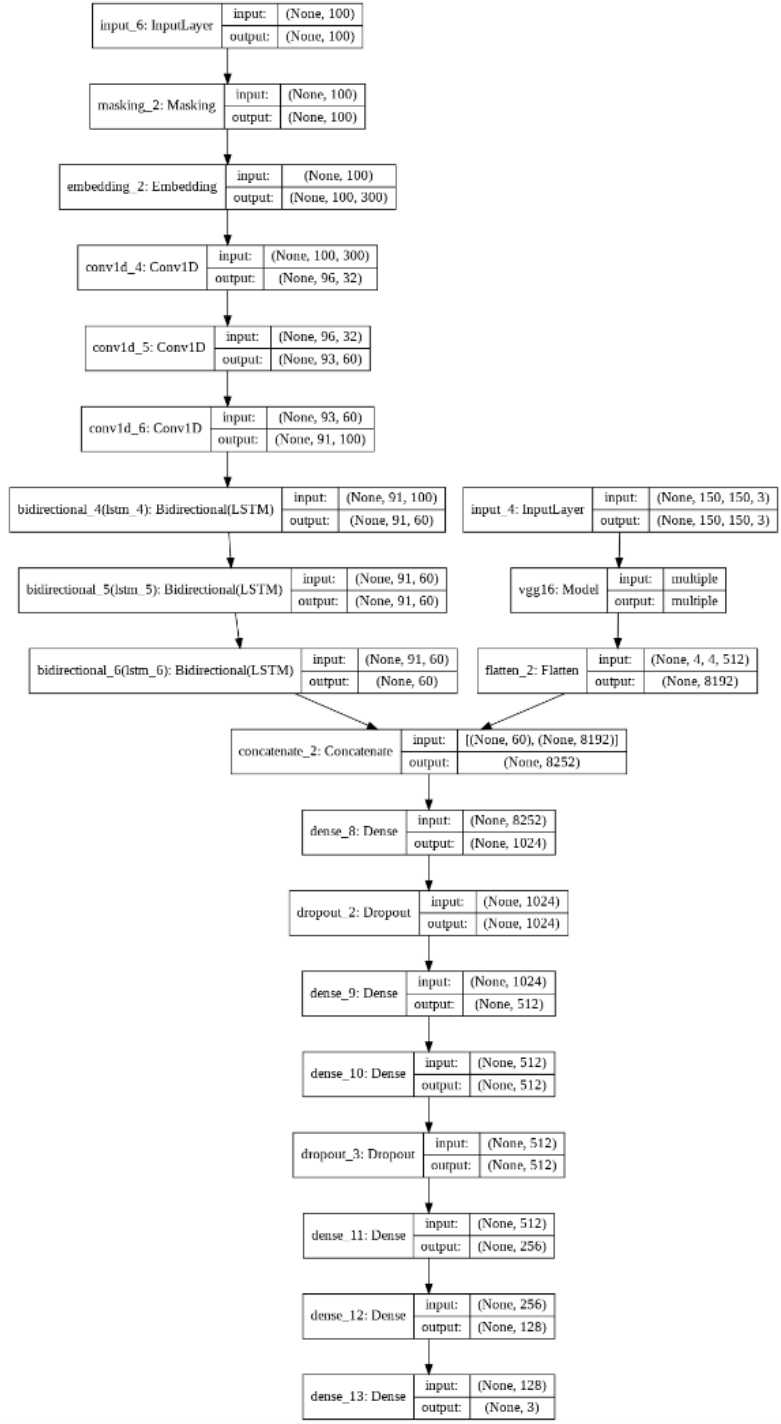


Glove 100d Embedding & BI-LSTM

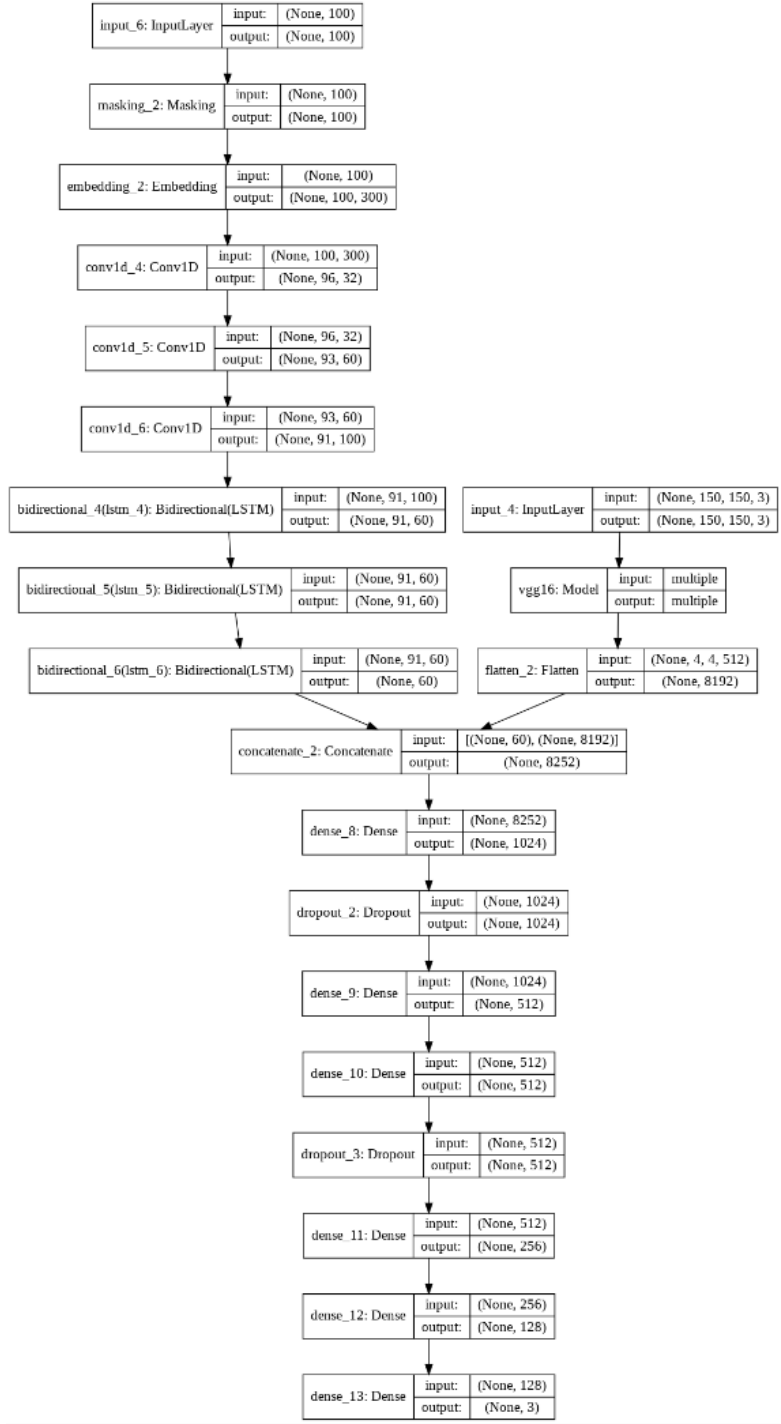


Glove 100d Embedding & BI-LSTM

Accuracy : 68 %

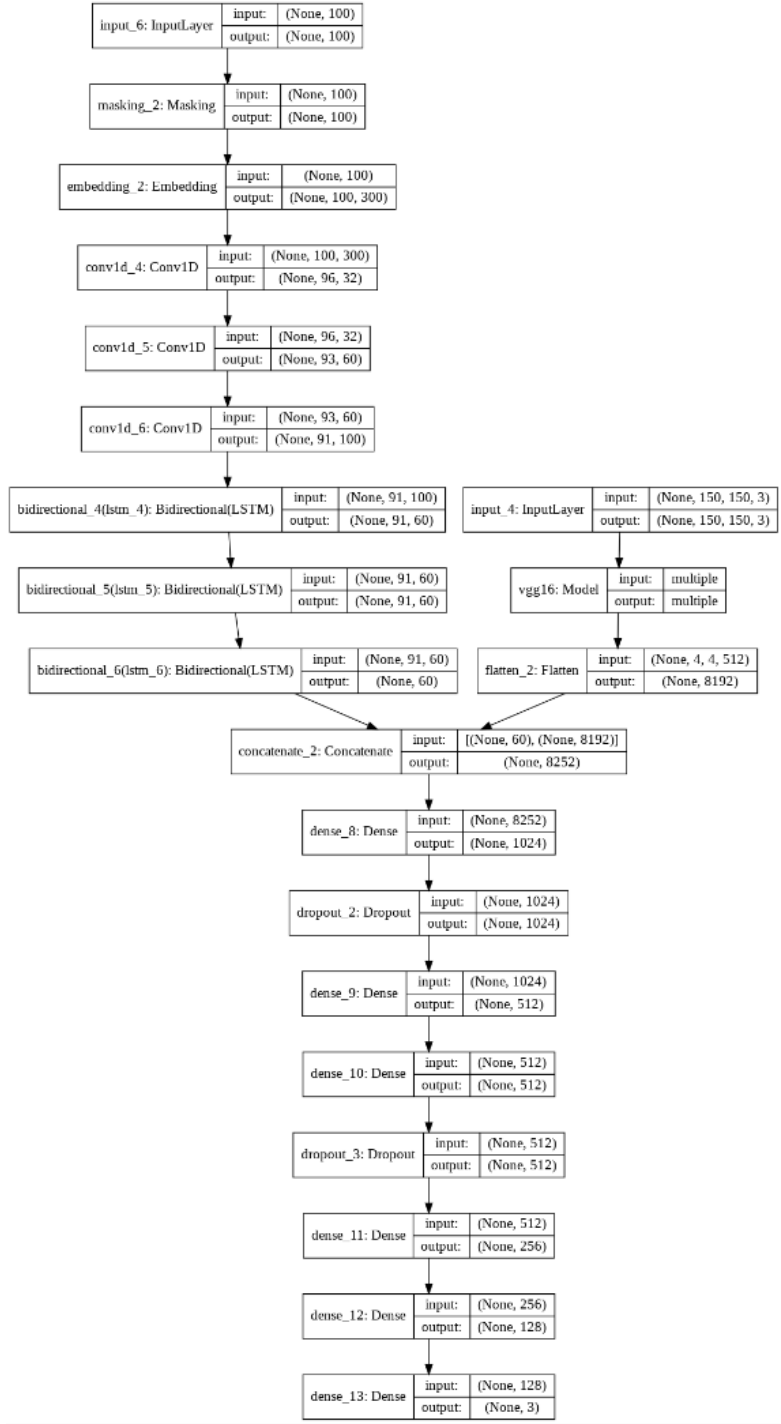


Conv1D &
Glove 300d Embedding

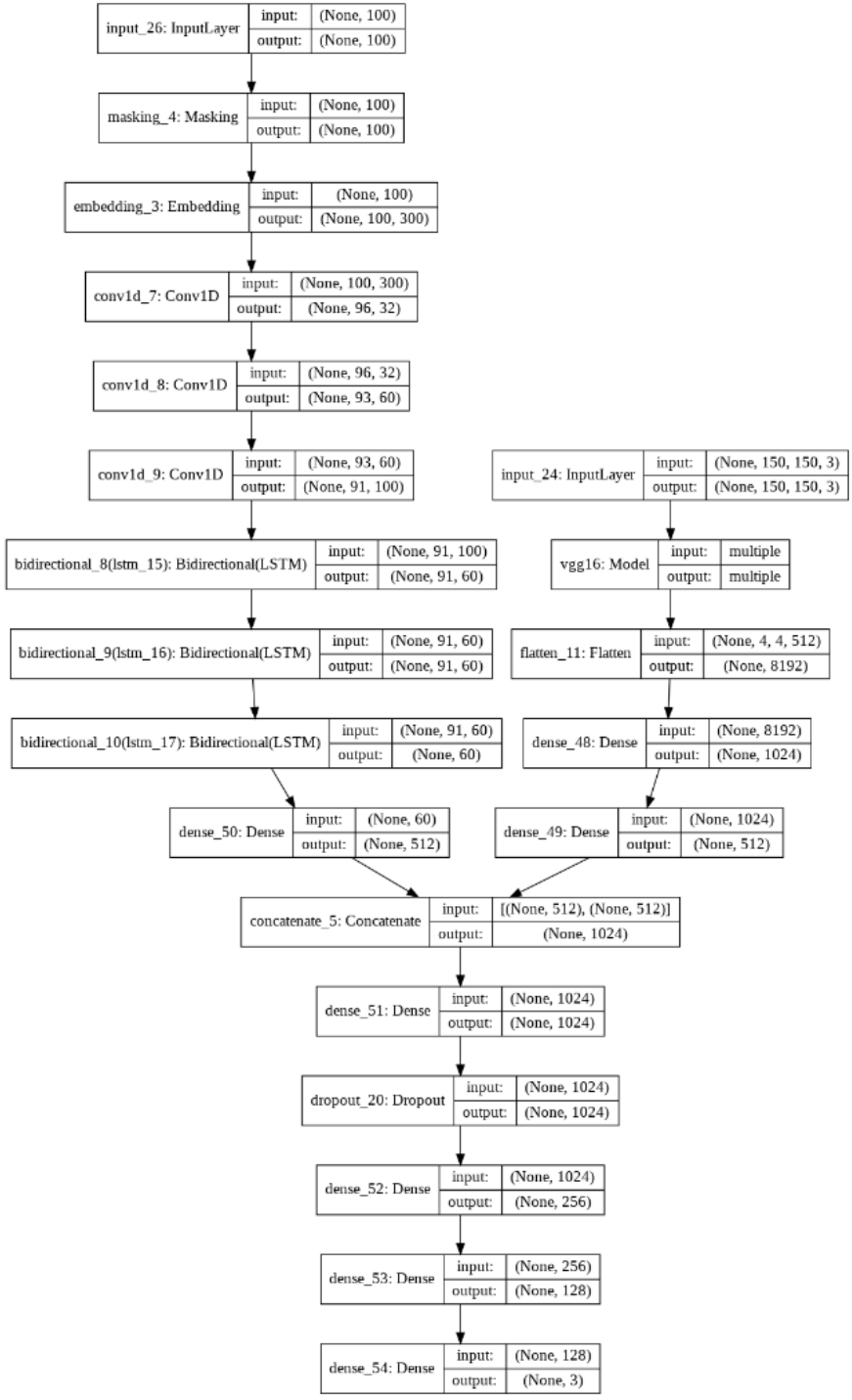


Conv1D &
Glove 300d Embedding

Accuracy : 72.13 %

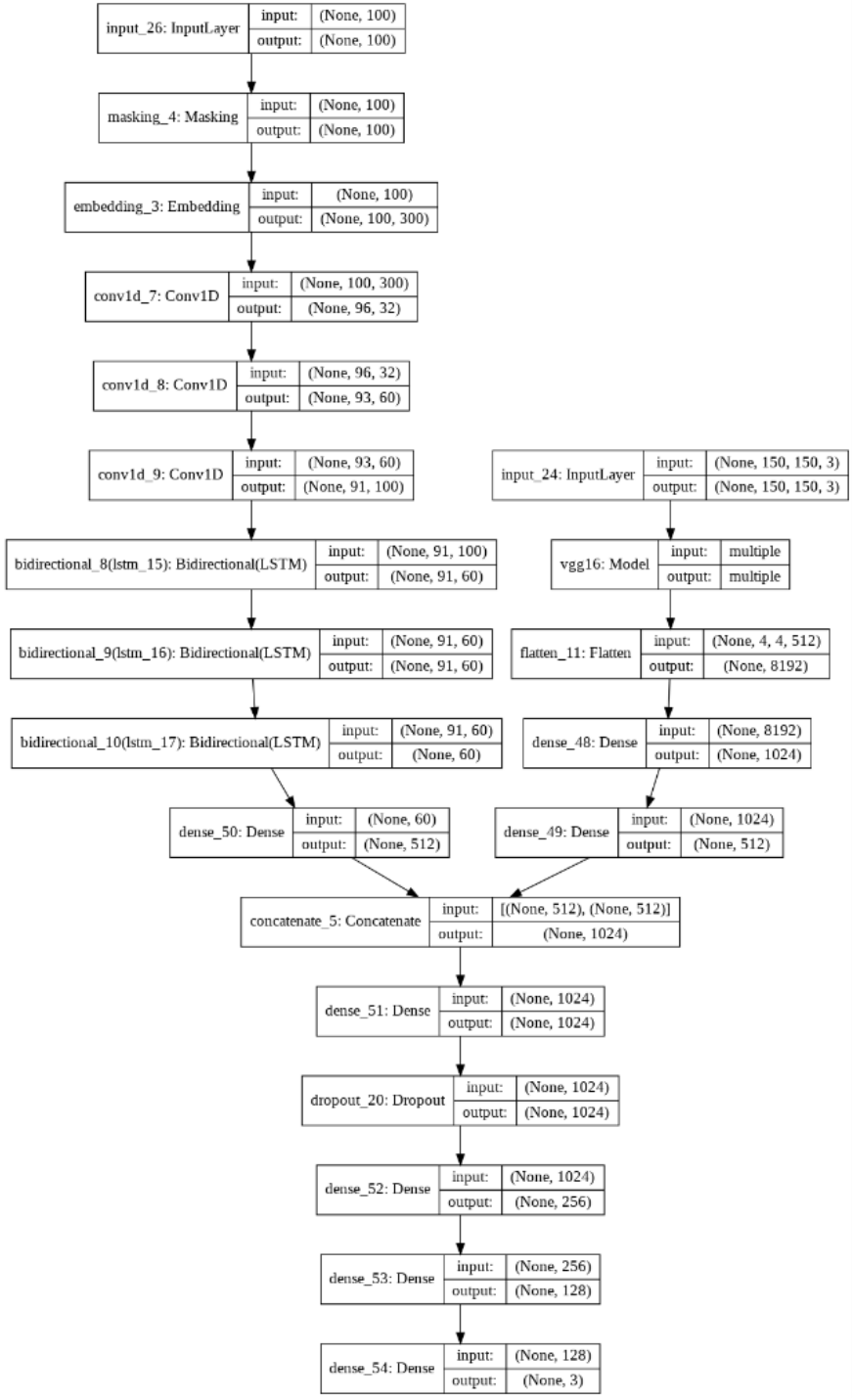


VGG &
Partial Dense Layer



VGG &
Partial Dense Layer

Accuracy : 87.7 %

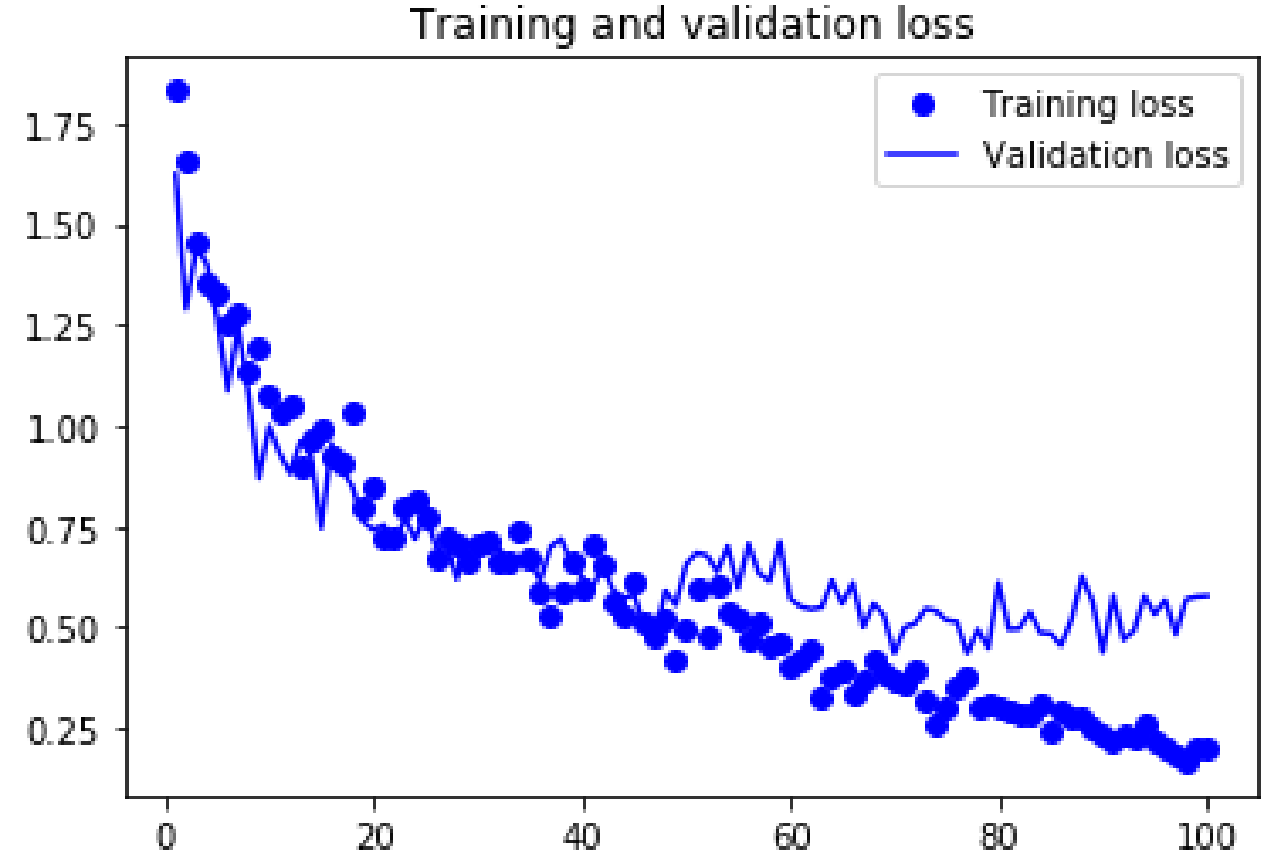


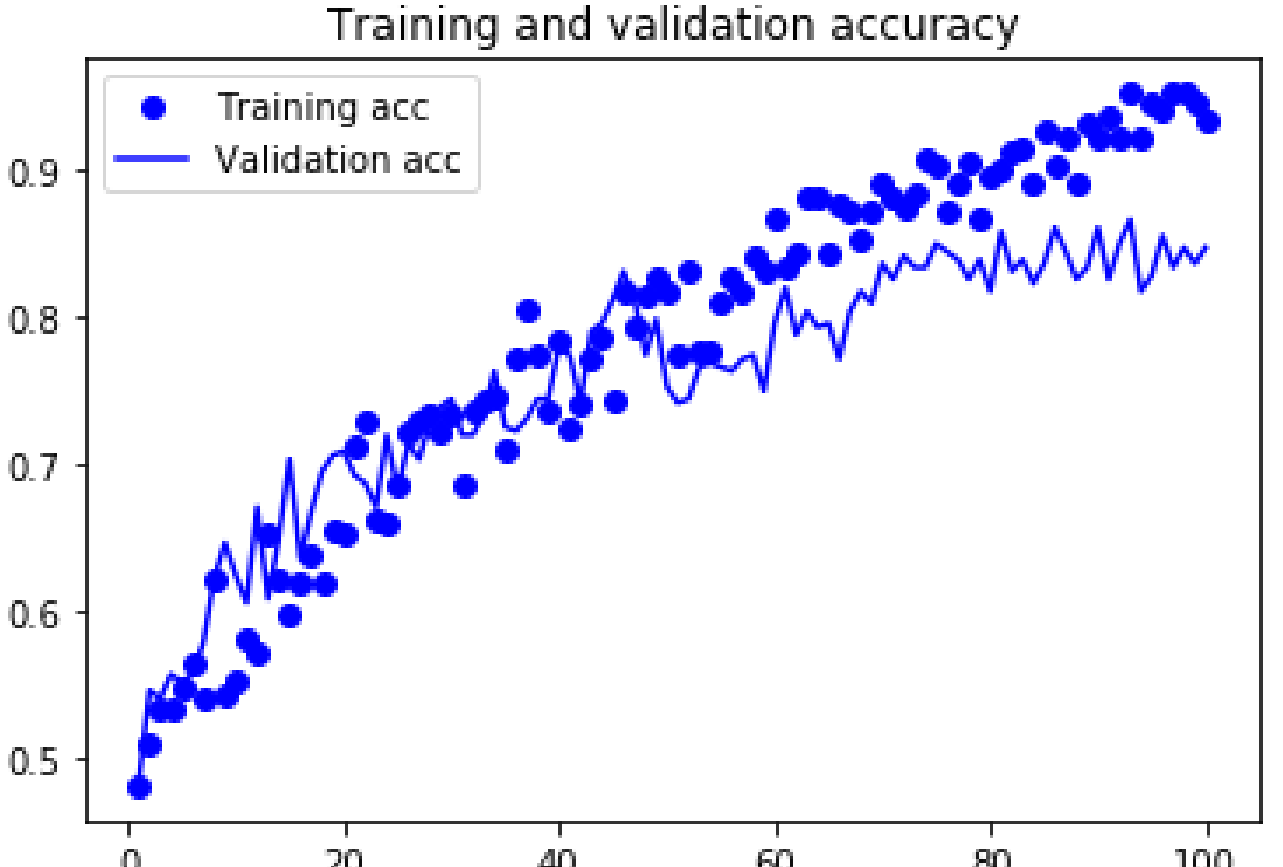
Accuracy : 87.7 %

F1: 0.88

Recall: 0.8625

Precision :0.90


Training and validation loss
Training loss
Validation loss
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0
20
40
60
80
100


Training and validation accuracy
Training acc
Validation acc
0.9
0.8
0.7
0.6
0.5
0
20
40
60
80
100

	Accuracy
image-convnet	55
baseline	59
image& w2v	64
Glove 100d& bi-lstm	68
conv1D & Glove 100d	72.13
VGG & part-layer	87.7