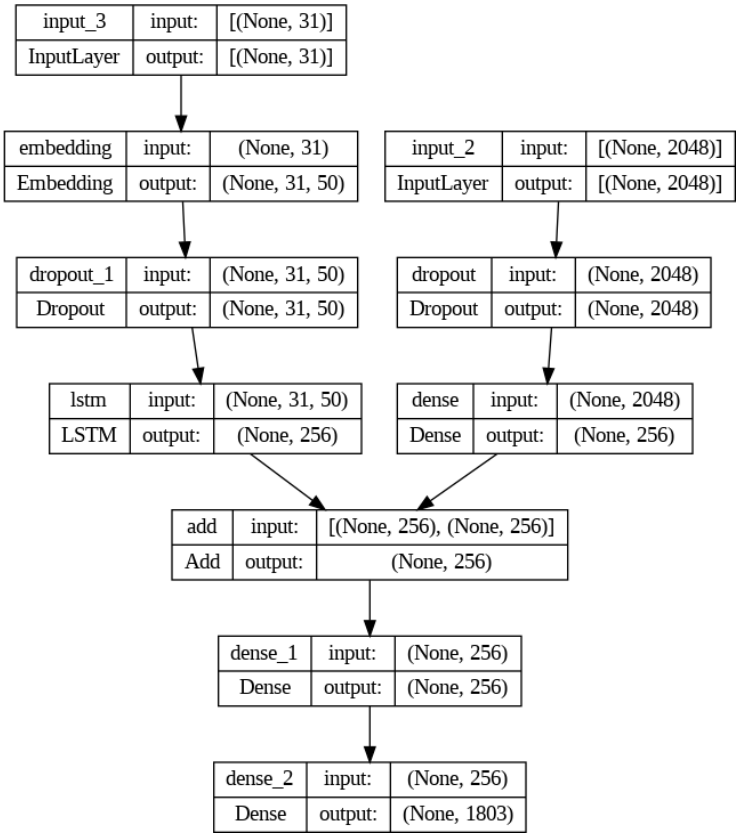
Project Development Phase
Model Performance Test

Date	21 NOvember 2022
Team ID	Team - 591920
Project Name	Project – Image Caption Generation
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Regression Model:** MAE - , MSE - , RMSE - , R2 score - **Classification Model:** Confusion Matrix - , Accuray Score- & Classification Report -	Using BLEU for acuuracy scores
2.	Tune the Model	Hyperparameter Tuning - Validation Method -	Splitting into train, test, validation set



- categorical_crossentropy is used with large no. of classes

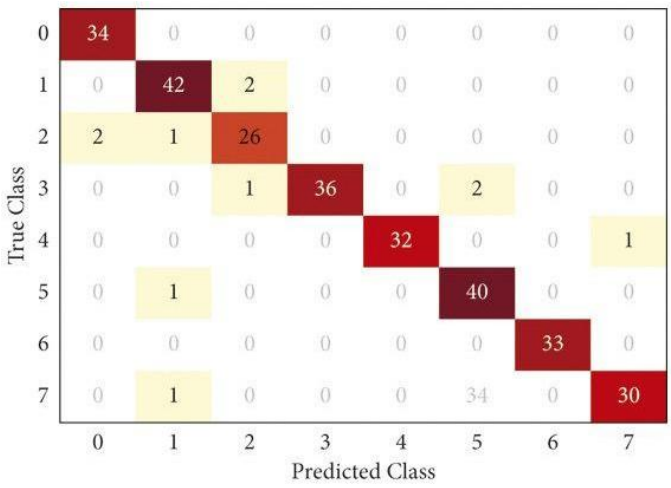
```
model.compile(loss='categorical_crossentropy',optimizer="adam")
```

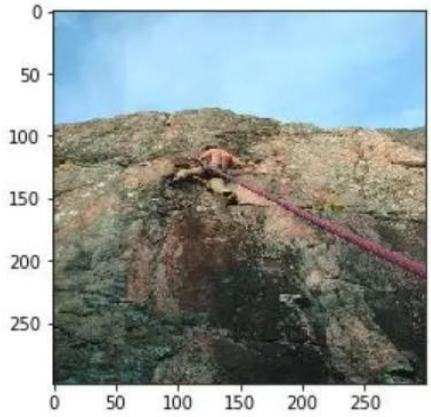
```
# model training
epochs = 20
batch_size = 3
steps = len(train_descriptions)//64
```

```
import pydot
import tensorflow as tf
import graphviz
tf.keras.utils.plot_model(model, show_shapes=True)
```

```
from sklearn. metrics import classification_report

print(classification_report(y_test, predictions))
```

```
              precision    recall  f1-score   support

           0       0.81      0.88      0.85      2986
           1       0.72      0.60      0.66      1514

    accuracy                           0.79      4500
   macro avg       0.77      0.74      0.75      4500
weighted avg       0.78      0.79      0.78      4500
```






```
**********************************************************************
Predicted Caption :

 a man climbs a cliff face
**********************************************************************
Referances :
 a man climbing a mountain
 a man climbs a mountain
 a man is climbing the side of a mountain
 a shirtless man climbs up a steep mountain
 a young white man is climbing a mountain with a rope as a guide
**********************************************************************

BLEU Score :
unigram = 0.6666666666666666
bigram = 0.6
cumulative = 0.6324555320336759
```