Project Development Phase
Model Performance Test

Date	18 November 2023
Team ID	Team-592072
Project Name	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.	Model Summary	-	
2.	Accuracy	Training accuracy 75.75	
3.	Confidence Score (Only Yolo Projects)	Bleu score - 45.45	

```
captions = mapping[key]
y_pred = predict_caption(model , features[key] , tokenizer , max_length)
    #split into words
y_real = [caption.split() for caption in captions]
y_pred = y_pred.split()

actual.append(y_real)
predict.append(y_pred)


print('bleu 1 : %f' % corpus_bleu(actual , predict , weights=(1.0 , 0 , 0 , 0)))
print('bleu 2 : %f' % corpus_bleu(actual , predict , weights=(0.5, 0.5 , 0 , 0)))
```

```
bleu 1 : 0.454545
bleu 2 : 0.213201
```

Accuracy:

```
for i in range(epochs):
    # create datagen
    generator = data_generator(train, mapping, features, tokenizer, max_length, vocab_size, batch_size)

    # Compile the model with a specific learning rate
    optimizer = Adam(learning_rate=learning_rate)
    model.compile(loss="categorical_crossentropy", optimizer=optimizer, metrics=['accuracy'])

    # Fit the model
    model.fit(generator, epochs=1, steps_per_epoch=steps, verbose=1)
```

```
900/900 [==============================] - 136s 145ms/step - loss: 385.5274 - accuracy: 0.1437
900/900 [==============================] - 133s 142ms/step - loss: 3.2206 - accuracy: 0.3328
900/900 [==============================] - 132s 141ms/step - loss: 2.1238 - accuracy: 0.4874
900/900 [==============================] - 129s 138ms/step - loss: 1.5777 - accuracy: 0.5989
900/900 [==============================] - 130s 139ms/step - loss: 1.2962 - accuracy: 0.6684
900/900 [==============================] - 131s 140ms/step - loss: 1.3439 - accuracy: 0.7083
900/900 [==============================] - 133s 141ms/step - loss: 1.0013 - accuracy: 0.7311
900/900 [==============================] - 132s 142ms/step - loss: 0.9888 - accuracy: 0.7417
900/900 [==============================] - 133s 143ms/step - loss: 0.9858 - accuracy: 0.7459
900/900 [==============================] - 132s 141ms/step - loss: 0.9290 - accuracy: 0.7490
900/900 [==============================] - 133s 142ms/step - loss: 0.8973 - accuracy: 0.7511
900/900 [==============================] - 132s 141ms/step - loss: 1.0168 - accuracy: 0.7529
900/900 [==============================] - 131s 140ms/step - loss: 0.8770 - accuracy: 0.7536
900/900 [==============================] - 130s 139ms/step - loss: 0.8766 - accuracy: 0.7541
900/900 [==============================] - 130s 139ms/step - loss: 0.9198 - accuracy: 0.7540
900/900 [==============================] - 134s 143ms/step - loss: 0.8973 - accuracy: 0.7541
900/900 [==============================] - 133s 142ms/step - loss: 0.9694 - accuracy: 0.7551
900/900 [==============================] - 132s 142ms/step - loss: 0.8744 - accuracy: 0.7546
900/900 [==============================] - 133s 142ms/step - loss: 0.8666 - accuracy: 0.7546
900/900 [==============================] - 131s 140ms/step - loss: 0.8861 - accuracy: 0.7559
900/900 [==============================] - 132s 141ms/step - loss: 0.8733 - accuracy: 0.7564
900/900 [==============================] - 130s 139ms/step - loss: 0.8508 - accuracy: 0.7562
900/900 [==============================] - 131s 139ms/step - loss: 0.8711 - accuracy: 0.7570
900/900 [==============================] - 132s 141ms/step - loss: 0.8808 - accuracy: 0.7571
900/900 [==============================] - 131s 139ms/step - loss: 0.8485 - accuracy: 0.7568
900/900 [==============================] - 132s 141ms/step - loss: 0.8661 - accuracy: 0.7569
900/900 [==============================] - 132s 141ms/step - loss: 0.8591 - accuracy: 0.7570
900/900 [==============================] - 133s 140ms/step - loss: 0.8458 - accuracy: 0.7575
900/900 [==============================] - 132s 141ms/step - loss: 0.8446 - accuracy: 0.7576
900/900 [==============================] - 131s 140ms/step - loss: 0.8564 - accuracy: 0.7575
```

Model Summary: