

Project Development Phase Model Performance Test

Date	18 NOvember 2022
Team ID	PNT2022TMID15252
Project Name	A Gesture-based Tool for Sterile Browsing of Radiology Images
Maximum Marks	10 Marks

Model Performance Testing:

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

S.N o.	Parameter	Values	Screenshot
1.	Metrics	Classification Model: Confusion Matrix - , Accuray Score- & Classification Report -	<p>Confusion Matrix:</p> <pre> Confusion Matrix In [10]: from sklearn.metrics import classification_report In [11]: path = "Dataset/test/" test_images_path = [] labels = [] for directory in os.listdir(path): for img_name in os.listdir(path+directory): test_images_path.append(path+directory+"/"+img_name) labels.append(int(directory)) In [19]: predicted_list = [] for img_path in test_images_path: img = image.load_img(img_path, grayscale=True, target_size=(64,64)) x = image.img_to_array(img) x = np.expand_dims(x, axis=0) pred = np.argmax(model.predict(x), axis=1) predicted_list.append(pred) In [17]: matrix = tf.math.confusion_matrix(labels, predicted_list) print("The Confusion Matrix") cm=pd.DataFrame(matrix, index=['gesture-0', 'gesture-1', 'gesture-2', 'gesture-3', 'gesture-4', 'gesture-5'], columns=['gesture-0', 'gesture-1', 'gesture-2', 'gesture-3', 'gesture-4', 'gesture-5']) print(cm) The Confusion Matrix gesture-0 gesture-1 gesture-2 gesture-3 gesture-4 gesture-5 gesture-0 5 0 0 0 0 0 gesture-1 0 5 0 0 0 0 gesture-2 0 1 4 0 0 0 gesture-3 0 0 0 5 0 0 gesture-4 0 0 0 2 3 0 gesture-5 0 0 0 0 0 5 </pre> <p>Accuracy Score:</p> <pre> Accuracy Score In [59]: from sklearn.metrics import accuracy_score In [60]: accuracy = accuracy_score(labels, predicted_list) print("Accuracy is ", accuracy) Accuracy is 0.9 </pre> <p>Classification Report-</p> <pre> Classification Report In [66]: print(classification_report(labels, predicted_list)) precision recall f1-score support 0 1.00 1.00 1.00 5 1 0.83 1.00 0.91 5 2 1.00 0.80 0.89 5 3 0.71 1.00 0.83 5 4 1.00 0.60 0.75 5 5 1.00 1.00 1.00 5 accuracy 0.90 30 macro avg 0.82 0.90 0.90 30 weighted avg 0.82 0.90 0.90 30 </pre>

Precision Recall Graph

