

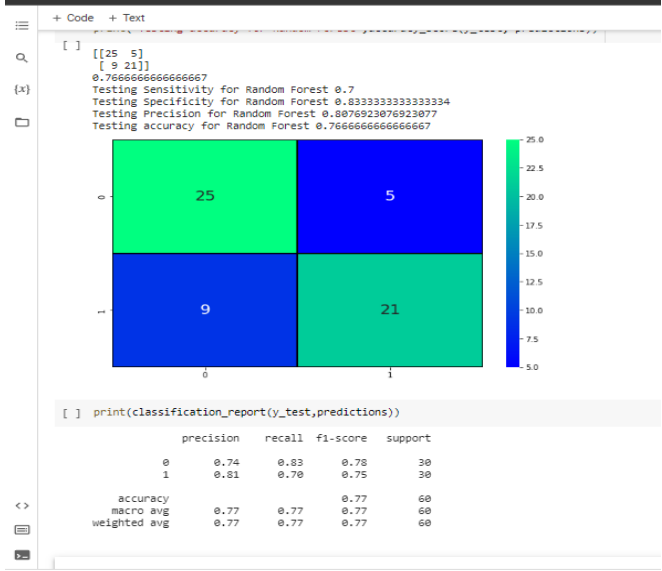
Project Development Phase

Model Performance Test

Date	19 November 2022
Team ID	PNT2022TMID09607
Project Name	Project - Detecting Parkinson's Disease Using Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

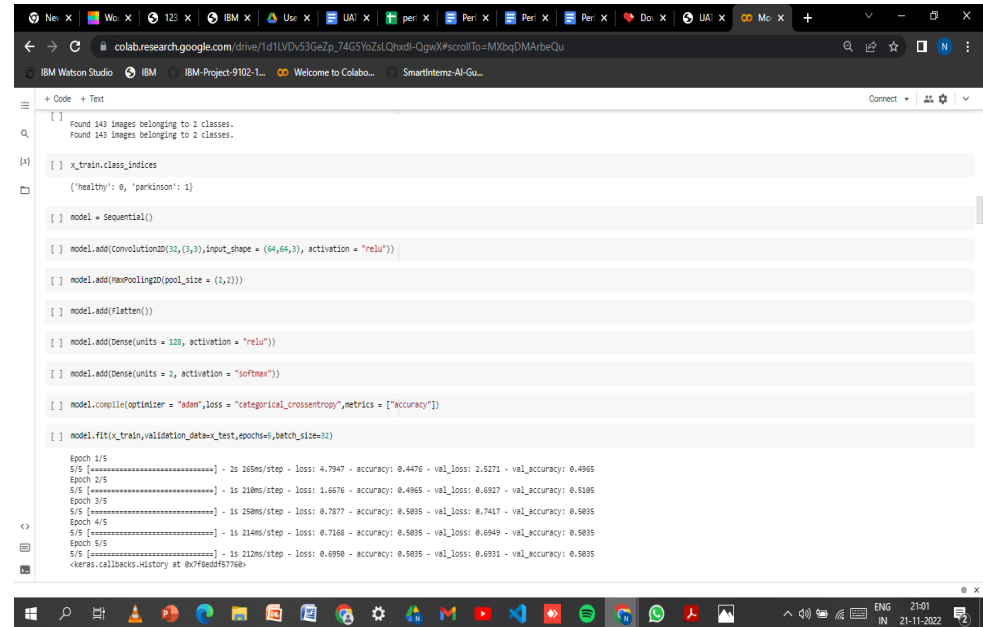
Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	<p>Regression Model: MAE - , MSE - , RMSE - , R2 score -</p> <p>Classification Model: Confusion Matrix – [25 , 5 , 9 , 21], Accuracy Score – 78% & Classification Report -</p>	 <pre> [] [[25 5] [9 21]] 0.7666666666666667 Testing Sensitivity for Random Forest 0.7 Testing Specificity for Random Forest 0.8333333333333334 Testing Precision for Random Forest 0.8076923076923077 Testing accuracy for Random Forest 0.7666666666666667 [] print(classification_report(y_test,predictions)) precision recall f1-score support 0 0.74 0.83 0.78 30 1 0.81 0.70 0.75 30 accuracy 0.77 0.77 0.77 60 macro avg 0.77 0.77 0.77 60 weighted avg 0.77 0.77 0.77 60 </pre>

2.

Tune the Model

Hyper parameter Tuning -
Validation Method -



```
+ Code + Text
[]
Found 143 images belonging to 2 classes.
Found 143 images belonging to 2 classes.
[] x_train.class_indices
{'healthy': 0, 'parkinson': 1}
[] model = Sequential()
[] model.add(Convolution2D(32,(3,3),input_shape = (64,64,3), activation = "relu"))
[] model.add(MaxPooling2D(pool_size = (2,2)))
[] model.add(Flatten())
[] model.add(Dense(units = 128, activation = "relu"))
[] model.add(Dense(units = 2, activation = "softmax"))
[] model.compile(optimizer = "adam",loss = "categorical_crossentropy",metrics = ["accuracy"])
[] model.fit(x_train,validation_data=x_test,epochs=5,batch_size=32)

Epoch 1/5
5/5 [=====] - 2s 265ms/step - loss: 4.7947 - accuracy: 0.4476 - val_loss: 2.5271 - val_accuracy: 0.4965
Epoch 2/5
5/5 [=====] - 1s 218ms/step - loss: 1.6676 - accuracy: 0.4965 - val_loss: 0.6927 - val_accuracy: 0.5105
Epoch 3/5
5/5 [=====] - 1s 258ms/step - loss: 0.7877 - accuracy: 0.5835 - val_loss: 0.7417 - val_accuracy: 0.5835
Epoch 4/5
5/5 [=====] - 1s 214ms/step - loss: 0.7168 - accuracy: 0.5835 - val_loss: 0.6949 - val_accuracy: 0.5835
Epoch 5/5
5/5 [=====] - 1s 212ms/step - loss: 0.6950 - accuracy: 0.5835 - val_loss: 0.6931 - val_accuracy: 0.5835
<keras.callbacks.History at 0x7f8edf5776d>
```