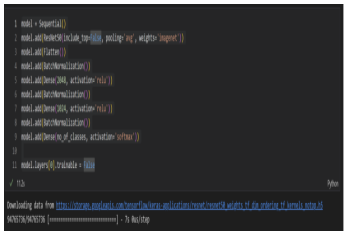
Project Development Phase
Model Performance Test

Date	18 November 2023
Team ID	Team-592942
Project Name	Detecting COVID-19 From Chest X-Rays Using Deep Learning Techniques
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 - 93% Validation Accuracy - 92%	

3.	Confidence Score (Only Yolo Projects)	Class Detected - Confidence Score -	

SCREEN SHOTS-

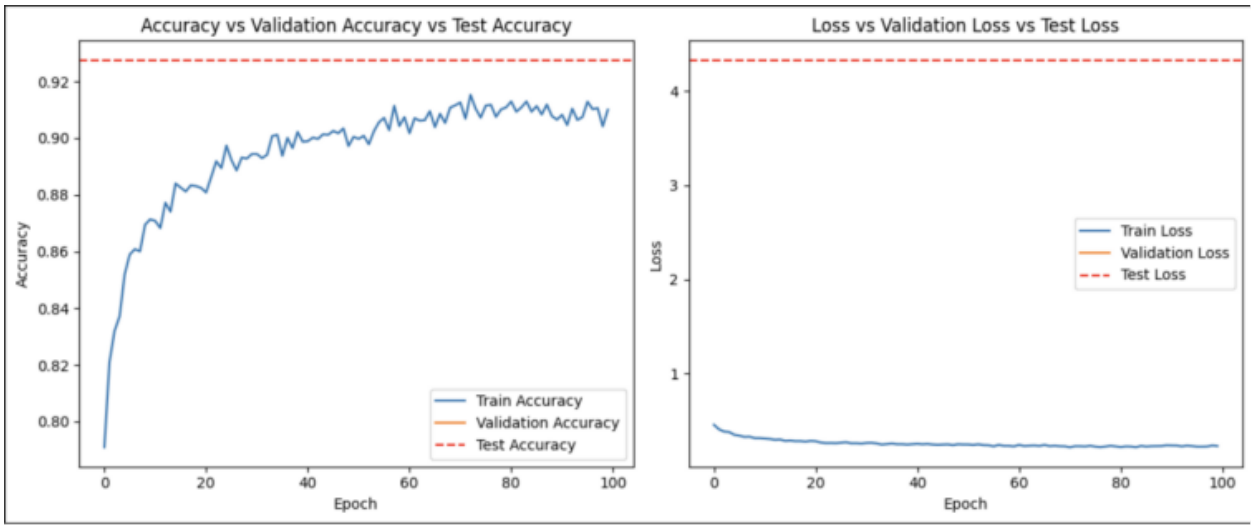
```
model = Sequential()
model.add(ResNet50(include_top=False, pooling='avg', weights='imagenet'))
model.add(Flatten())
model.add(BatchNormalization())
model.add(Dense(2048, activation='relu'))
model.add(BatchNormalization())
model.add(Dense(1024, activation='relu'))
model.add(BatchNormalization())
model.add(Dense(no_of_classes, activation='softmax'))

model.layers[0].trainable = False
```

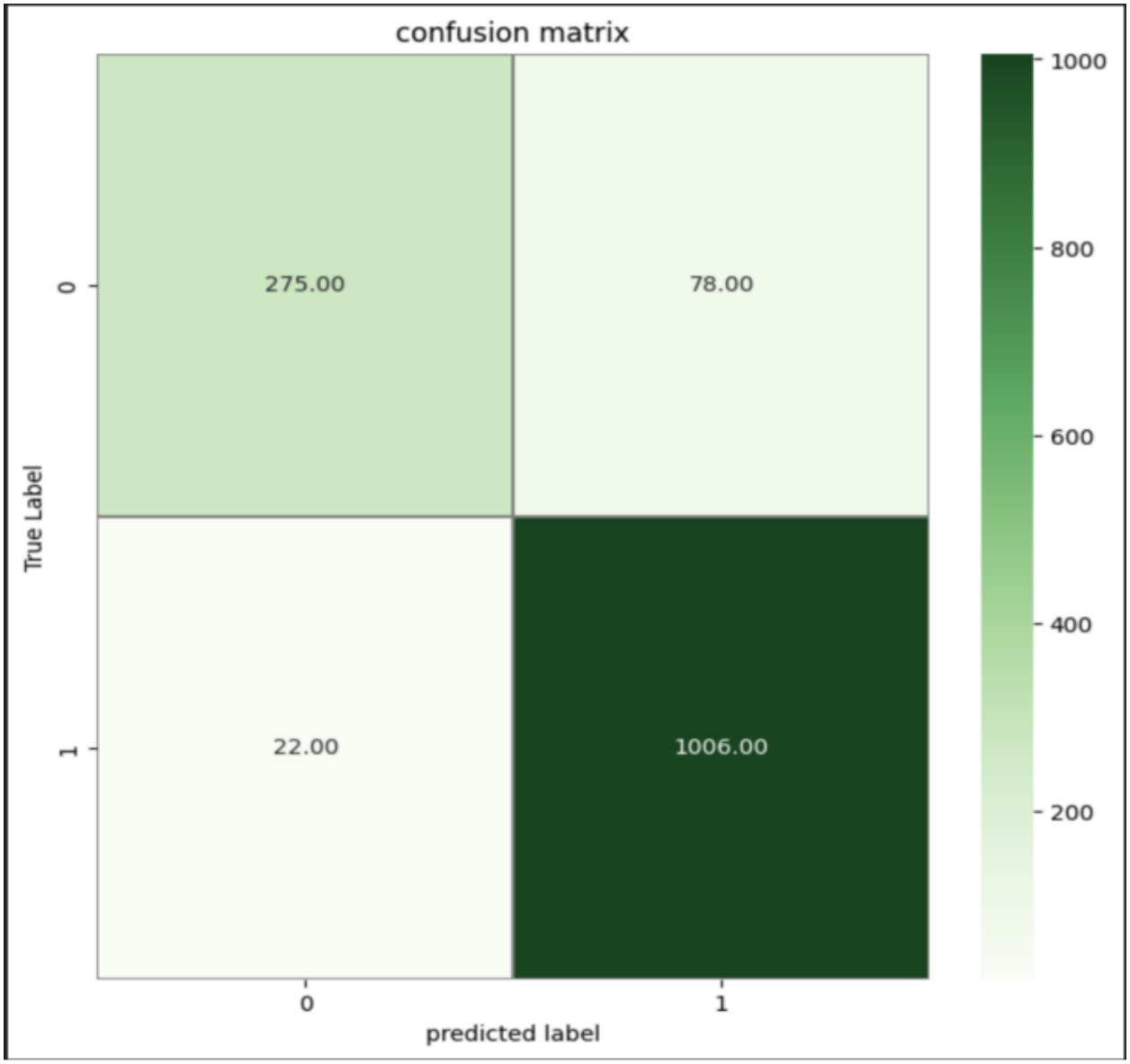
✓ 11.2s Python

```
Downloading data from https://storage.googleapis.com/tensorflow/keras-applications/resnet/resnet50_weights_tf_dim_ordering_tf_kernels_notop.h5
94765736/94765736 [==============================] - 7s 0us/step
```

```
epochs = 100

train_datagen = ImageDataGenerator(
        rotation_range=15,
        fill_mode ="nearest")

checkpointer = ModelCheckpoint(filepath = "D:\project covid\CDX_Best_RestNet50.h5", save_best_only = True, verbose=1)
start = time.time()


history=model.fit_generator(train_datagen.flow(X_train, y_train, batch_size = bs),
                            steps_per_epoch = len(X_train)//bs,
                            validation_data = (X_valid, y_valid),
                            validation_steps = len(X_valid)//bs,
                            epochs =epochs,
                            callbacks= [checkpointer])

end = time.time()
duration = end - start
print ('\n This Model took %0.2f seconds (%0.1f minutes) to train for %d epochs'%(duration, duration/60, epochs) )
```

✓ 1306m 24.1s Python


Accuracy vs Validation Accuracy vs Test Accuracy
Accuracy
Epoch
Train Accuracy
Validation Accuracy
Test Accuracy
Loss vs Validation Loss vs Test Loss
Loss
Epoch
Train Loss
Validation Loss
Test Loss


confusion matrix
275.00
78.00
22.00
1006.00
True Label
predicted label
0
1
0
1
1000
800
600
400
200