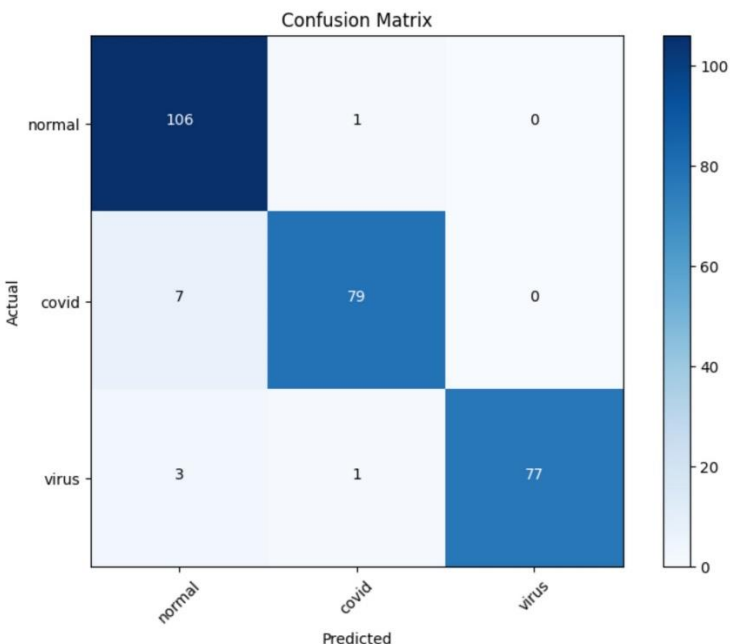


Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	Team-592761
Project Name	Detection of COVID-19 from chest X-rays using Deep Learning
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot																														
1.	Metrics	Classification Model: Confusion Matrix, Accuracy Score & Classification Report	<div><p>Confusion Matrix:</p><p>Accuracy Score:</p><table><tr><td>normal</td><td>0.94</td><td>0.95</td><td>0.94</td><td>107</td></tr><tr><td>covid</td><td>0.94</td><td>0.95</td><td>0.95</td><td>86</td></tr><tr><td>virus</td><td>1.00</td><td>0.96</td><td>0.98</td><td>81</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.96</td><td>274</td></tr><tr><td>macro avg</td><td>0.96</td><td>0.96</td><td>0.96</td><td>274</td></tr><tr><td>weighted avg</td><td>0.96</td><td>0.96</td><td>0.96</td><td>274</td></tr></table></div>	normal	0.94	0.95	0.94	107	covid	0.94	0.95	0.95	86	virus	1.00	0.96	0.98	81	accuracy			0.96	274	macro avg	0.96	0.96	0.96	274	weighted avg	0.96	0.96	0.96	274
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weighted avg	0.96	0.96	0.96	274																													

			Classification Report: <pre> base_mobilenet_model = mobilenet_model.layers[2] #MobileNetV2 Architecture base_mobilenet_model.trainable = True #The MobileNet Model has 155 layers (the prediction layer inclusive) #Fine-tune from this layer onwards fine_tune_at = 120 #Freeze all the layers before the `fine_tune_at` layer for layer in base_mobilenet_model.layers[:fine_tune_at]: layer.trainable = True optimizer = Adam(learning_rate = 0.1 * base_learning_rate) batch_size = 64 loss = 'categorical_crossentropy' metrics = ['accuracy'] callback = EarlyStopping(monitor='val_accuracy', patience=20, restore_best_weights=True) reduce_lr = ReduceLROnPlateau(monitor='val_accuracy', factor=1e-1, patience=8, verbose=1, min_lr = 2e-6) mobilenet_model.compile(optimizer = optimizer, loss = loss, metrics = metrics) </pre>
2.	Tune the Model	Hyperparameter Tuning - Validation Method -	Metrics Used: <ul style="list-style-type: none"> • MobileNetV2 • Loss Function • Adam Optimizer • EarlyStopping Callback • ReduceLROnPlateau class