CNN

	Before K FOLD	AFTER K FOLD (5)
Accuracy	**0.9583333134651184**	**89. 35185194015503**
		Score per fold
		> Fold 1 - Loss: 0.5678552389144897 - Accuracy: 87.03703880310059%
		> Fold 2 - Loss: 0.09221635013818741 - Accuracy: 96.06481194496155%
		> Fold 3 - Loss: 0.5380594730377197 - Accuracy: 85.18518805503845%
		> Fold 4 - Loss: 0.28568127751350403 - Accuracy: 92.12962985038757%
		> Fold 5 - Loss: 0.4563312232494354 - Accuracy: 86.34259104728699%
		Average scores for all folds:
		> Accuracy: 89.35185194015503 (+- 4.112298166647632)
		> Loss: 0.3880287125706673
Confusion Matrix		
Model Loss		

	Model Accuracy	
Model Accuracy		
Roc		

	BEFORE K FOLD	AFTER K FOLD
Accuracy	Epoch 43/50 53/53 ———— 26s 440ms/step - accuracy: 0.9998 - loss: 0.0025 Epoch 44/50 53/53 ———— 0s 250us/step - accuracy: 1.0000 - loss: 0.0014 Epoch 45/50 53/53 ———— 25s 434ms/step - accuracy: 0.9983 - loss: 0.0093 Epoch 46/50 53/53 ———— 0s 192us/step - accuracy: 1.0000 - loss: 0.0022 Epoch 47/50 53/53 ———— 26s 435ms/step - accuracy: 0.9871 - loss: 0.0343 Epoch 48/50 53/53 ———— 0s 250us/step - accuracy: 1.0000 - loss: 0.0154 Epoch 49/50 53/53 ———— 25s 438ms/step - accuracy: 0.9868 - loss: 0.0330 Epoch 50/50 53/53 ———— 0s 183us/step - accuracy: 1.0000 - loss: 8.2040e-04 14/14 ———— 3s 210ms/step - accuracy: 0.9247 - loss: 0.3282 Test accuracy: 0.9027777910232544 **0.90277**	-------------------------------------- Score per fold -------------------------------------- > Fold 1 - Loss: 0.3608737587928772 - Accuracy: 91.43518805503845% -------------------------------------- > Fold 2 - Loss: 0.337971568107605 - Accuracy: 91.89814925193787% -------------------------------------- > Fold 3 - Loss: 0.26351895928382874 - Accuracy: 92.8240716457367% -------------------------------------- > Fold 4 - Loss: 0.4234241247177124 - Accuracy: 80.3240716457367% -------------------------------------- > Fold 5 - Loss: 0.29420265555381775 - Accuracy: 93.5185194015503% -------------------------------------- Average scores for all folds: > Accuracy: 90.0 (+- 4.891659928738582) > Loss: 0.3359982132911682 **90.0**
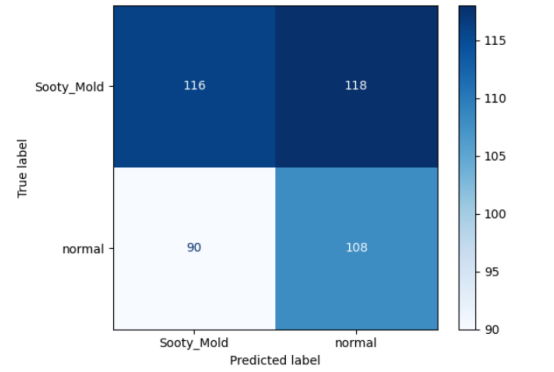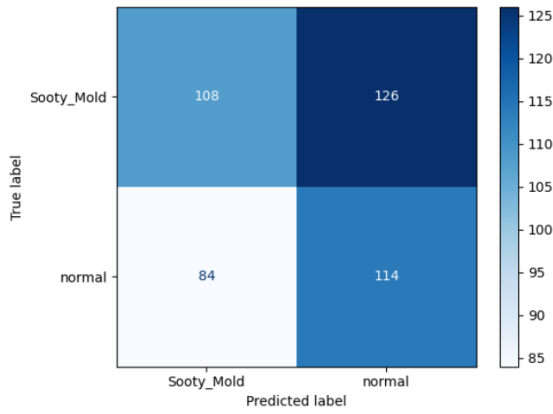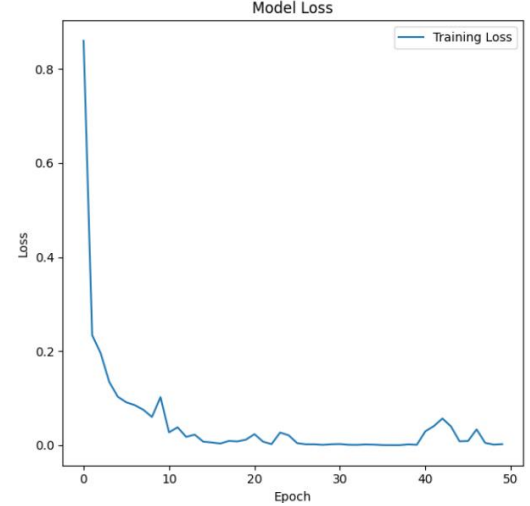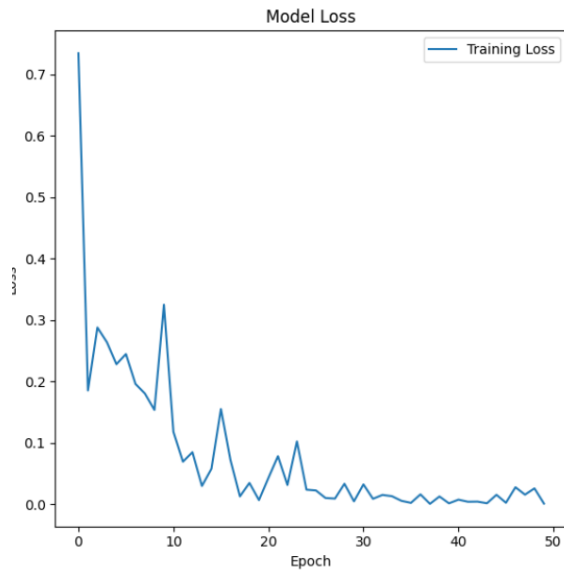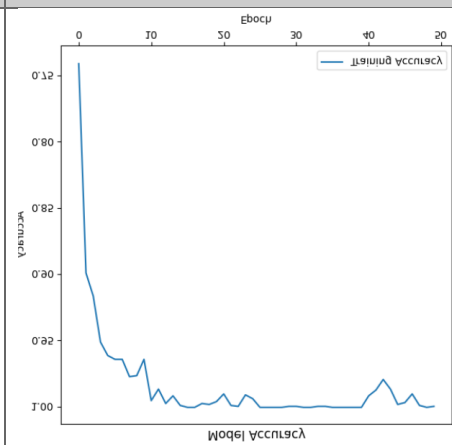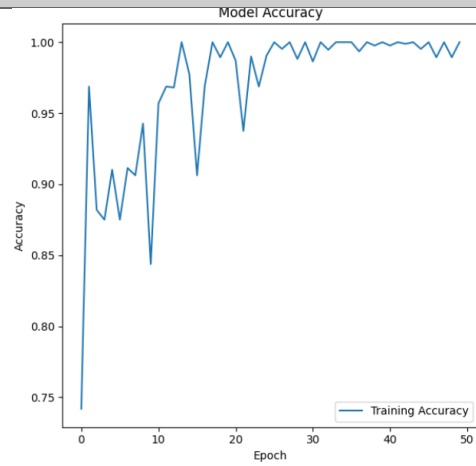
Confusion Matrix		
Model Loss		
Model Accuracy		
ROC		
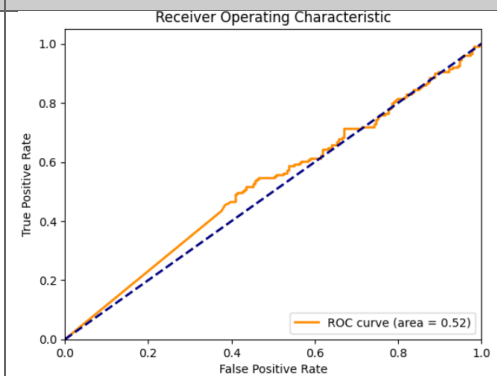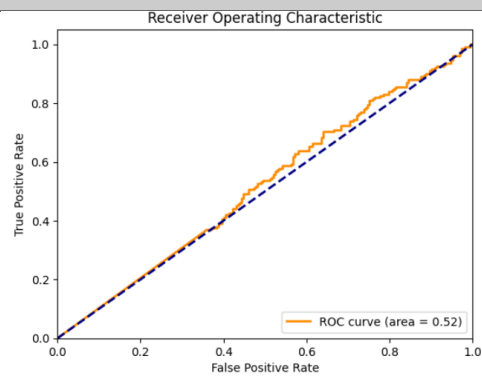
Layer

Model: "sequential_1"

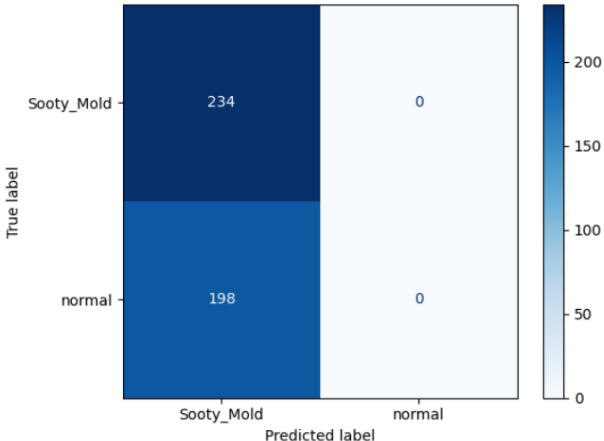| Layer (type)	Output Shape	Param #
conv2d_2 (Conv2D)	(None, 148, 148, 32)	896
max_pooling2d_2 (MaxPooling2D)	(None, 74, 74, 32)	0
conv2d_3 (Conv2D)	(None, 72, 72, 64)	18,496
max_pooling2d_3 (MaxPooling2D)	(None, 36, 36, 64)	0
flatten_1 (Flatten)	(None, 82944)	0
dense_2 (Dense)	(None, 128)	10,616,960
dense_3 (Dense)	(None, 2)	258

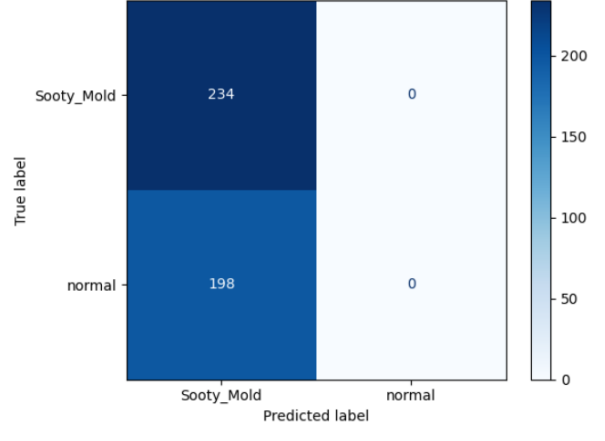Total params: 31,909,832 (121.73 MB)
Trainable params: 10,636,610 (40.58 MB)
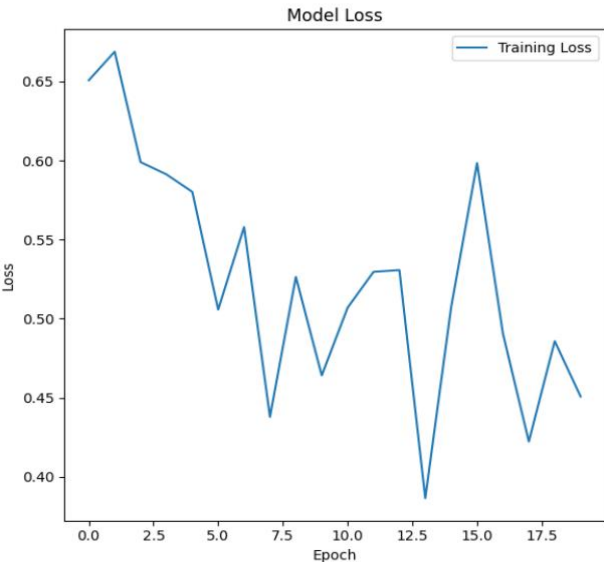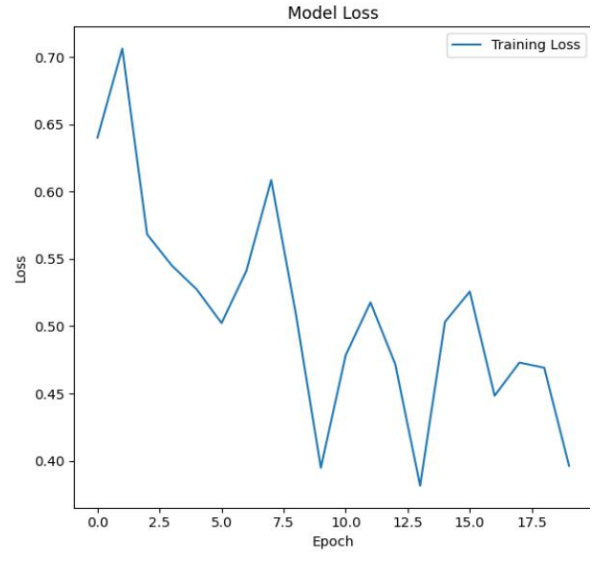Non-trainable params: 0 (0.00 B)
Optimizer params: 21,273,222 (81.15 MB)

RESNET50

	BEFORE K FOLD	AFTER K FOLD
Accuracy	0.7800925970077515 (Out of 1)	76.521737575531 (out of 100)
		Score per fold

		> Fold 1 - Loss: 0.448403924703598 - Accuracy: 81.15941882133484%

		> Fold 2 - Loss: 0.43036583065986633 - Accuracy: 80.28985261917114%

		> Fold 3 - Loss: 0.45218417048454285 - Accuracy: 80.57971000671387%

		> Fold 4 - Loss: 0.5464342832565308 - Accuracy: 68.40579509735107%

		> Fold 5 - Loss: 0.5239073038101196 - Accuracy: 72.1739113330841%

		Average scores for all folds:
		> Accuracy: 76.521737575531 (+- 5.2334698607264984)
		> Loss: 0.48025910258293153
Confusion Matrix		
Model Loss		

	Model Accuracy	ROC
Model Accuracy		
ROC		

50 EPOCHS

	BEFORE K FOLD	AFTER K FOLD
Accuracy	**0.7962962985038757**	**78.20289850234985** Score per fold -- > Fold 1 - Loss: 0.4044031500816345 - Accuracy: 82.89855122566223% -- > Fold 2 - Loss: 0.4571676552295685 - Accuracy: 75.36231875419617% -- > Fold 3 - Loss: 0.4326639771461487 - Accuracy: 79.1304349899292% -- > Fold 4 - Loss: 0.4194416105747223 - Accuracy: 78.2608687877655% -- > Fold 5 - Loss: 0.47968029975891113 - Accuracy: 75.36231875419617% -- Average scores for all folds: > Accuracy: 78.20289850234985 (+- 2.794660108098116) > Loss: 0.438671338558197

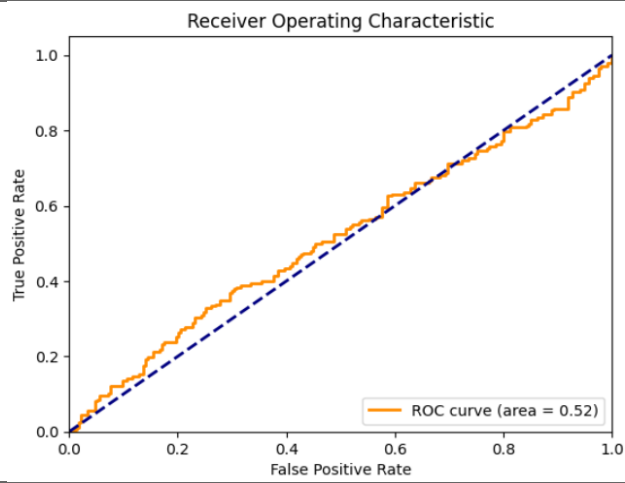|		
Confusio n Matrix		
Model Loss		
Model Accuracy		

ROC

LAYERS

```
Model: "sequential"
```
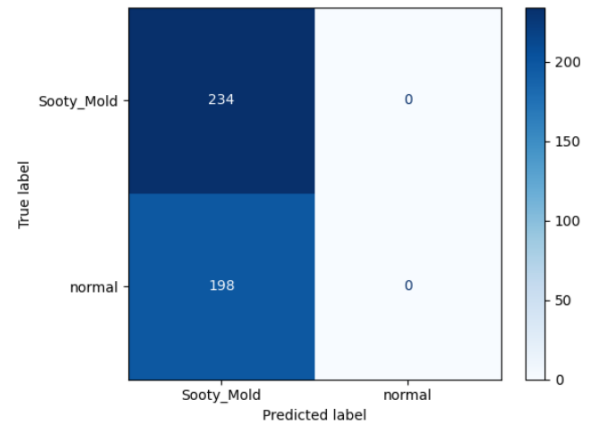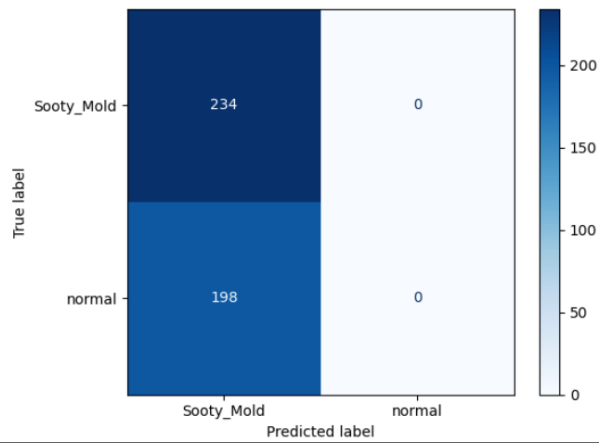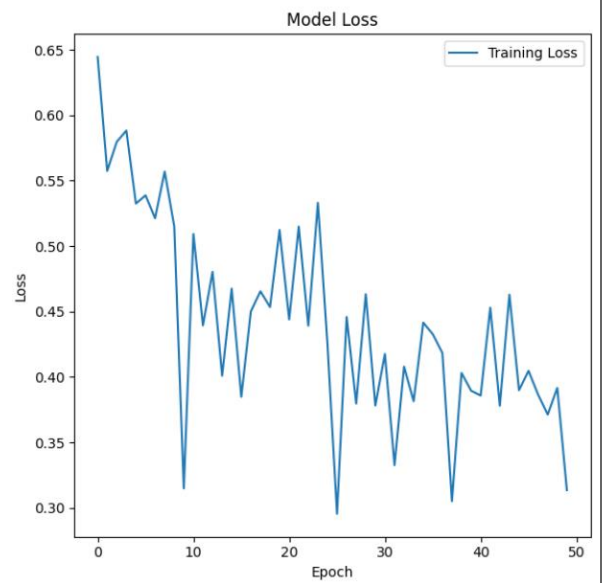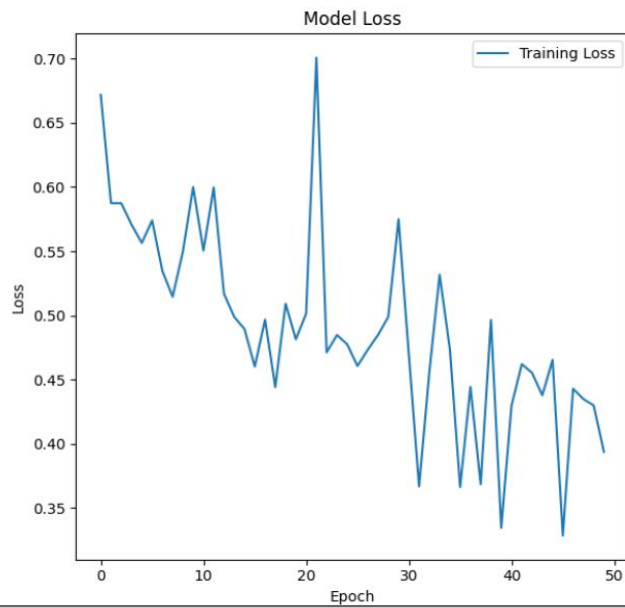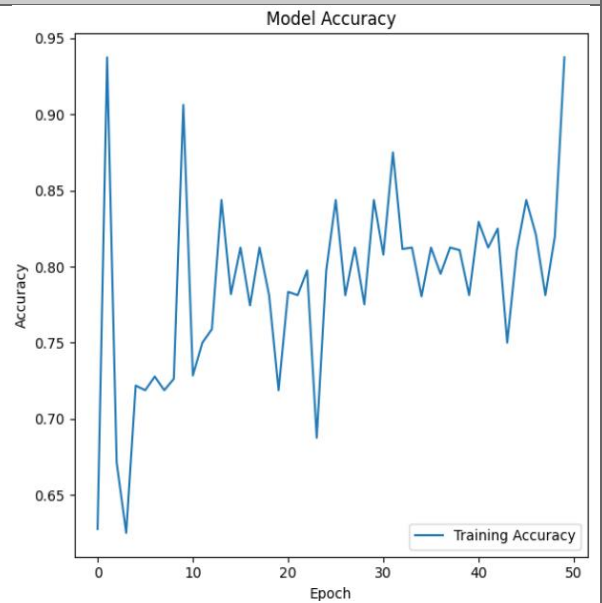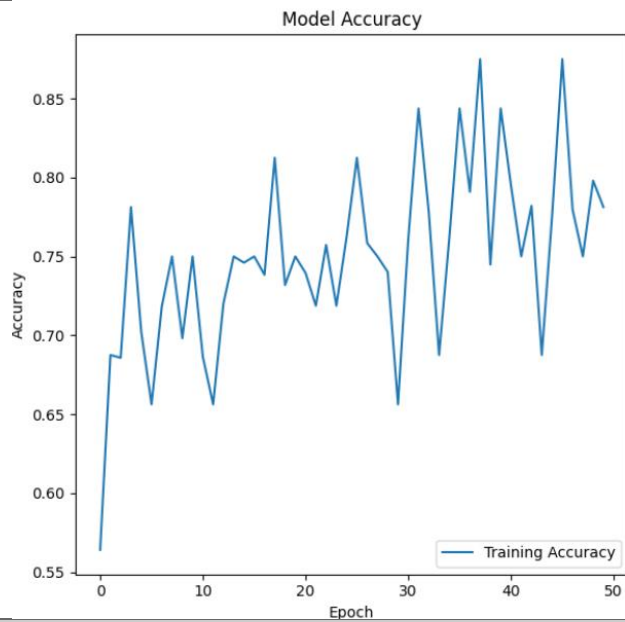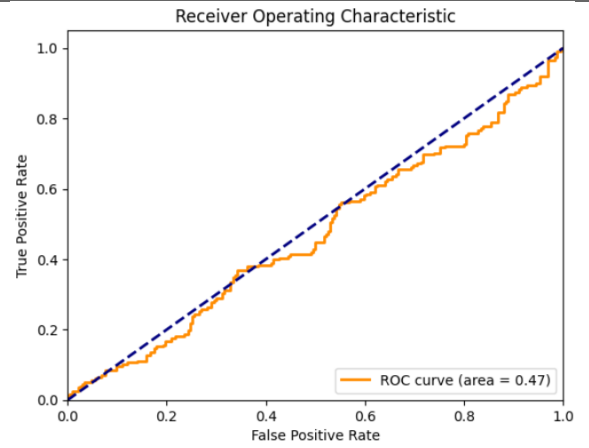
Layer (type)	Output Shape	Param #
resnet50 (Functional)	(None, 7, 7, 2048)	23,587,712
global_average_pooling2d (GlobalAveragePooling2D)	(None, 2048)	0
dense (Dense)	(None, 128)	262,272
dense_1 (Dense)	(None, 1)	129

```
Total params: 24,374,917 (92.98 MB)
Trainable params: 262,401 (1.00 MB)
Non-trainable params: 23,587,712 (89.98 MB)
Optimizer params: 524,804 (2.00 MB)
```
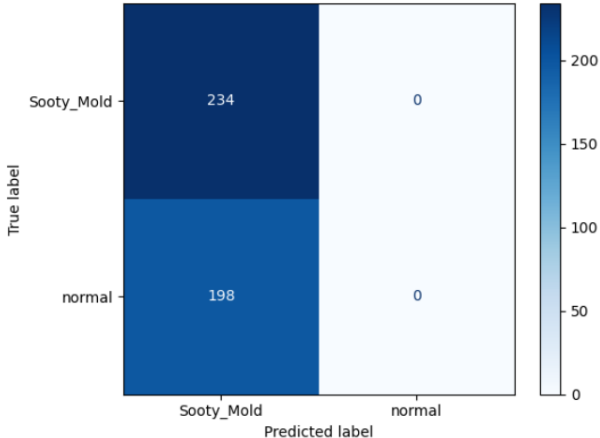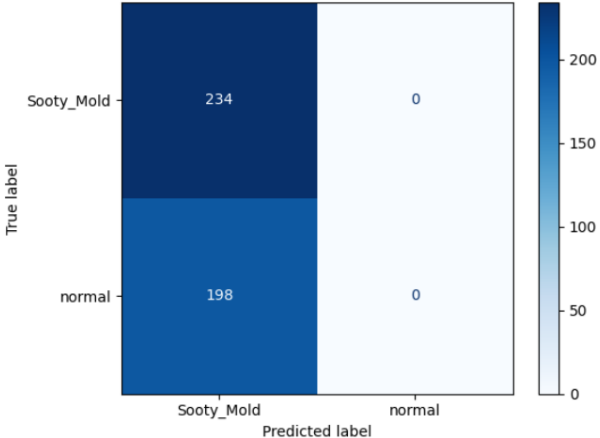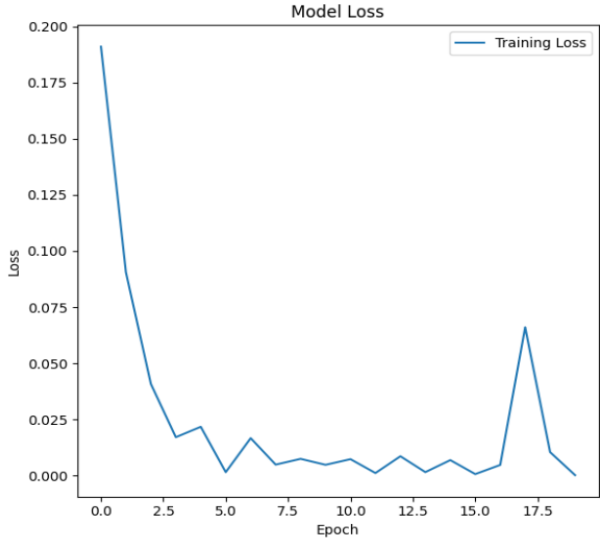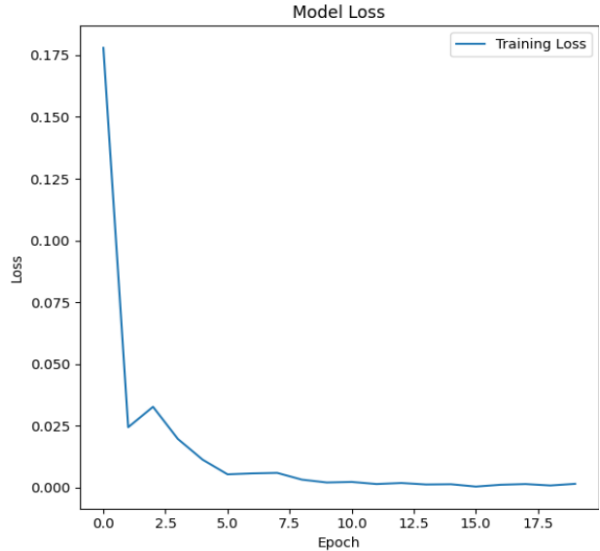
INCEPTIONV3

<mark>20 EPOCHS</mark>

|	BEFORE K FOLD	AFTER K FOLD
Accuracy	1.0	**99.88405704498291** Score per fold -- > Fold 1 - Loss: 0.008833266794681549 - Accuracy: 99.71014261245728% -- > Fold 2 - Loss: 0.0063986680470040701 - Accuracy: 99.71014261245728% -- > Fold 3 - Loss: 0.003544730367138982 - Accuracy: 100.0% -- > Fold 4 - Loss: 0.0054807816632092 - Accuracy: 100.0% -- > Fold 5 - Loss: 0.0033334624022245407 - Accuracy: 100.0% -- Average scores for all folds: > Accuracy: 99.88405704498291 (+- 0.1420005395311665) > Loss: 0.005518181854858995
Confusion Matrix		
Model Loss		

Model Accuracy		
	Model Accuracy	Model Accuracy
ROC		
	Receiver Operating Characteristic — ROC curve (area = 0.48)	Receiver Operating Characteristic — ROC curve (area = 0.49)

50 EPOCHS

	BEFORE K FOLD	AFTER K FOLD
Accuracy	1.0	**100.0** Score per fold --- > Fold 1 - Loss: 0.00372141576372087 - Accuracy: 100.0% --- > Fold 2 - Loss: 0.0027570200618356466 - Accuracy: 100.0% --- > Fold 3 - Loss: 0.0009862961014732718 - Accuracy: 100.0% --- > Fold 4 - Loss: 0.001828653970733285 - Accuracy: 100.0% --- > Fold 5 - Loss: 0.002538195811212063 - Accuracy: 100.0% --- Average scores for all folds: > Accuracy: 100.0 (+- 0.0) > Loss: 0.0023663163417950274

Confusion Matrix		
Model Loss		
Model Accuracy		

ROC		

Layers

```
Model: "sequential"
```
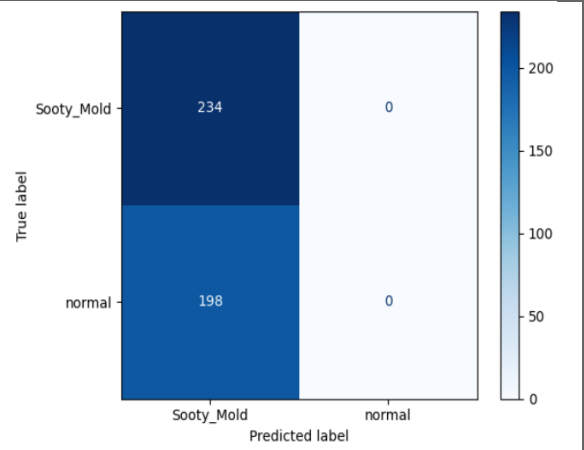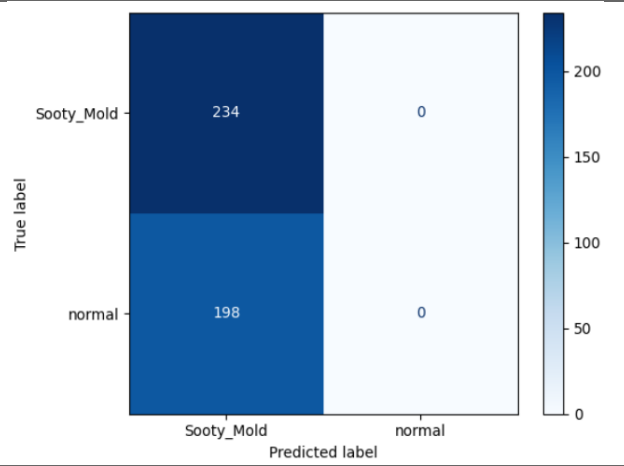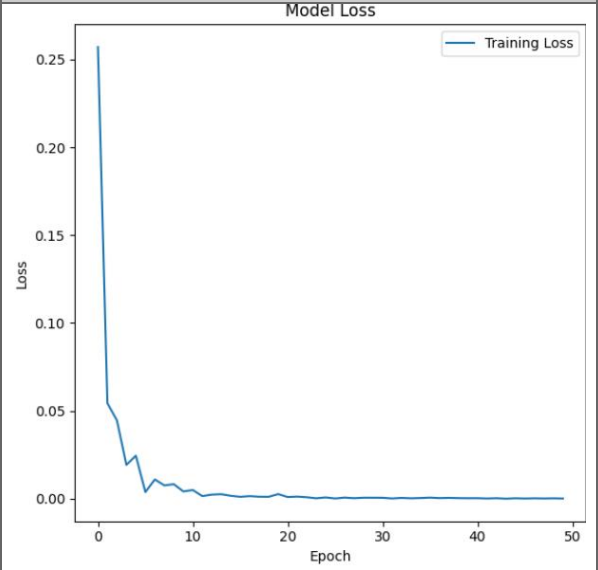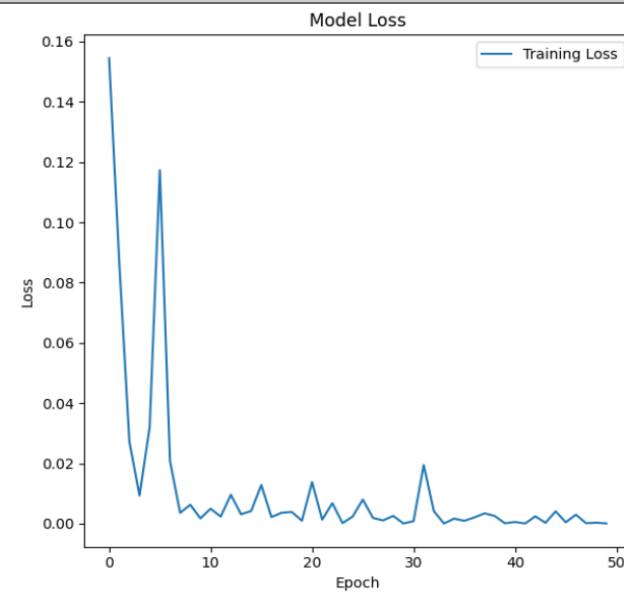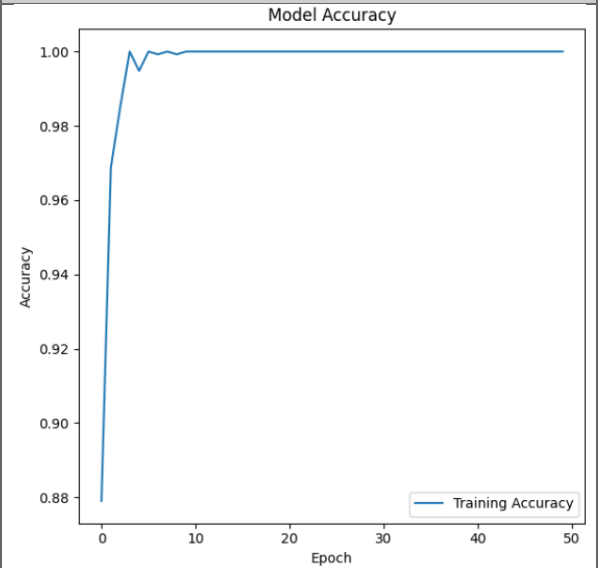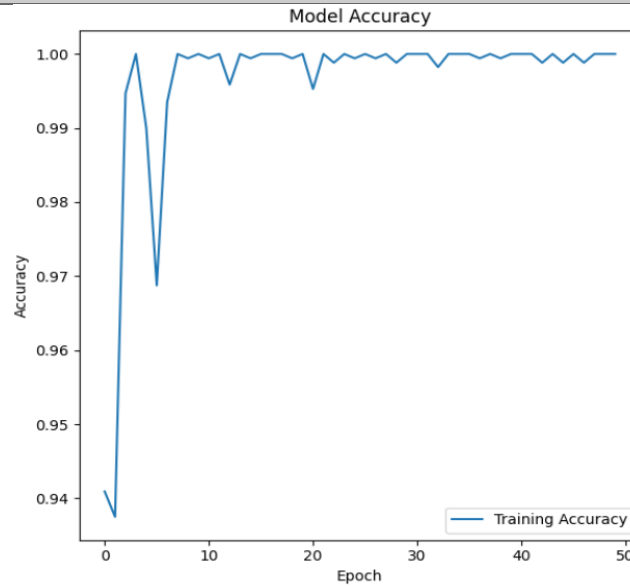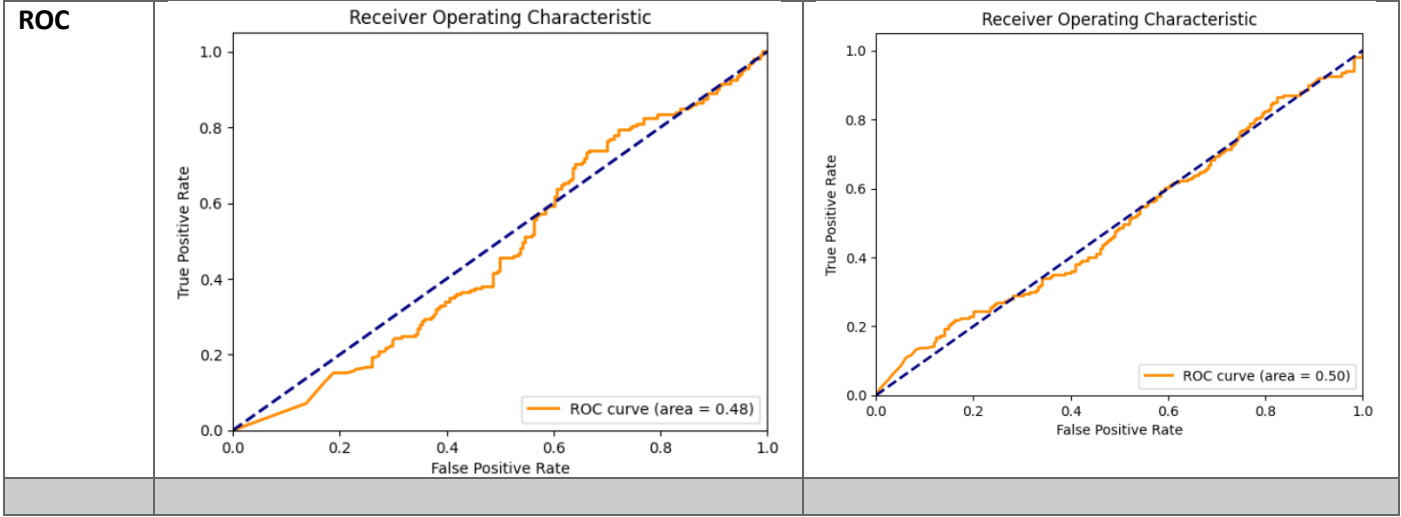
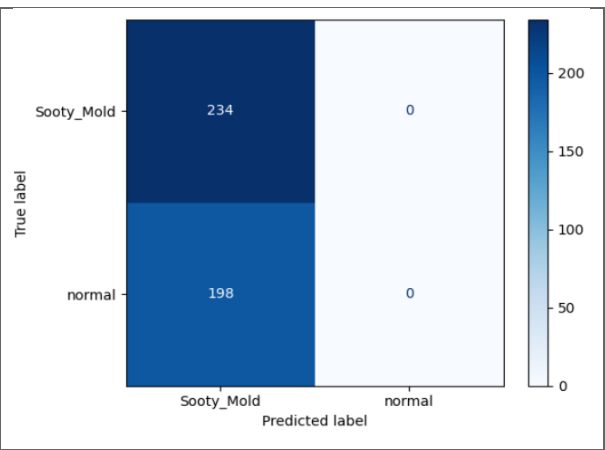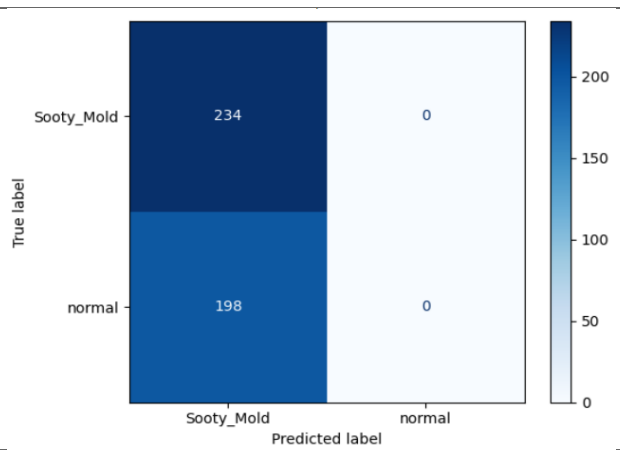| Layer (type)	Output Shape	Param #
inception_v3 (Functional)	(None, 8, 8, 2048)	21,802,784
global_average_pooling2d (GlobalAveragePooling2D)	(None, 2048)	0
dense (Dense)	(None, 128)	262,272
dense_1 (Dense)	(None, 1)	129

```
Total params: 22,589,989 (86.17 MB)
Trainable params: 262,401 (1.00 MB)
Non-trainable params: 21,802,784 (83.17 MB)
Optimizer params: 524,804 (2.00 MB)
```
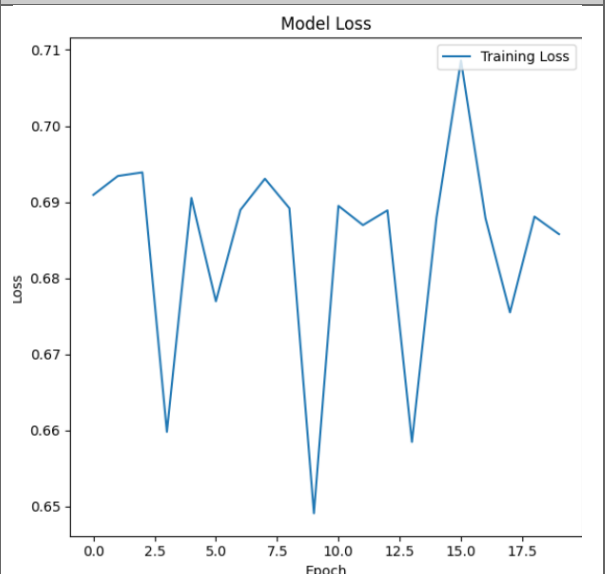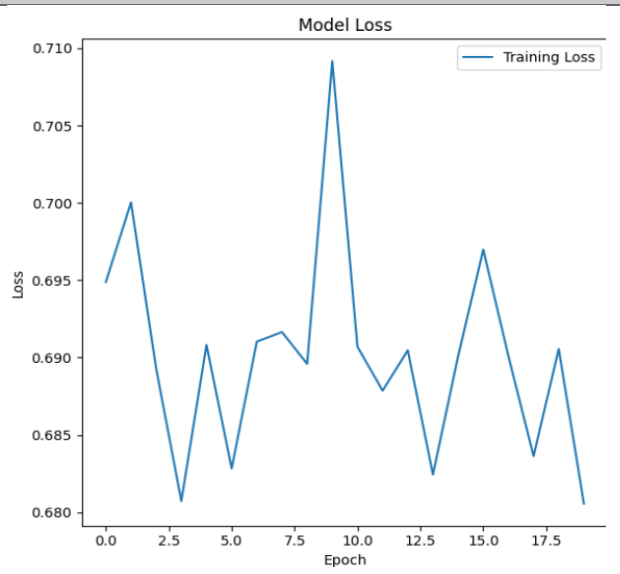
EfficientNetB0

20 EPOCHS

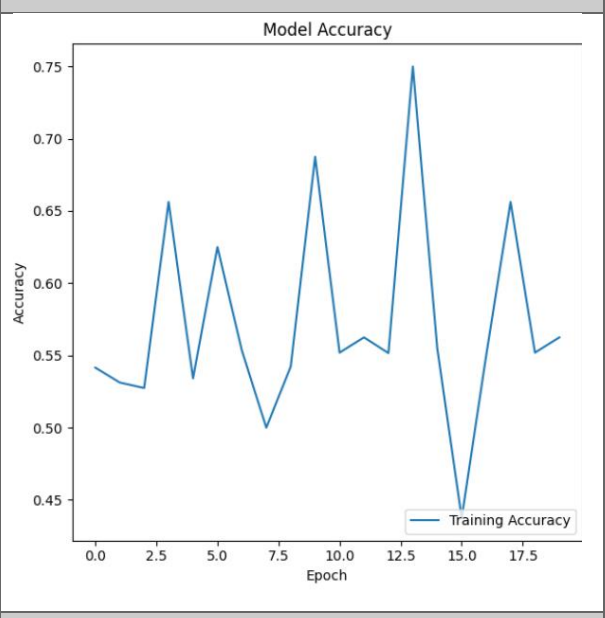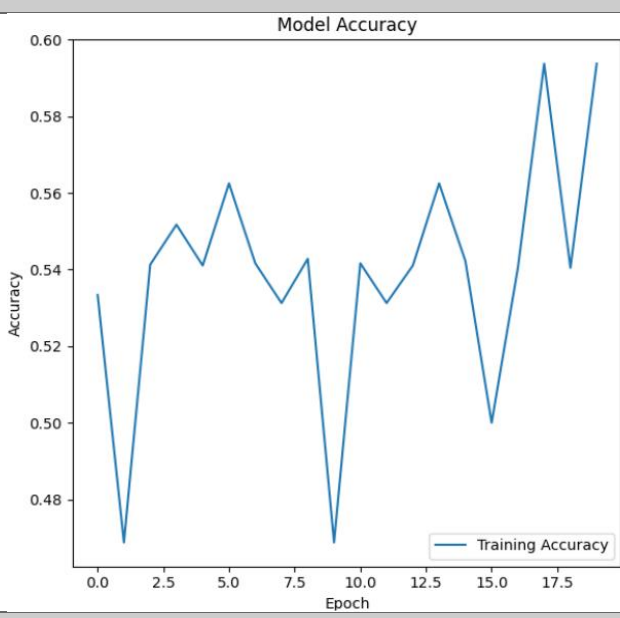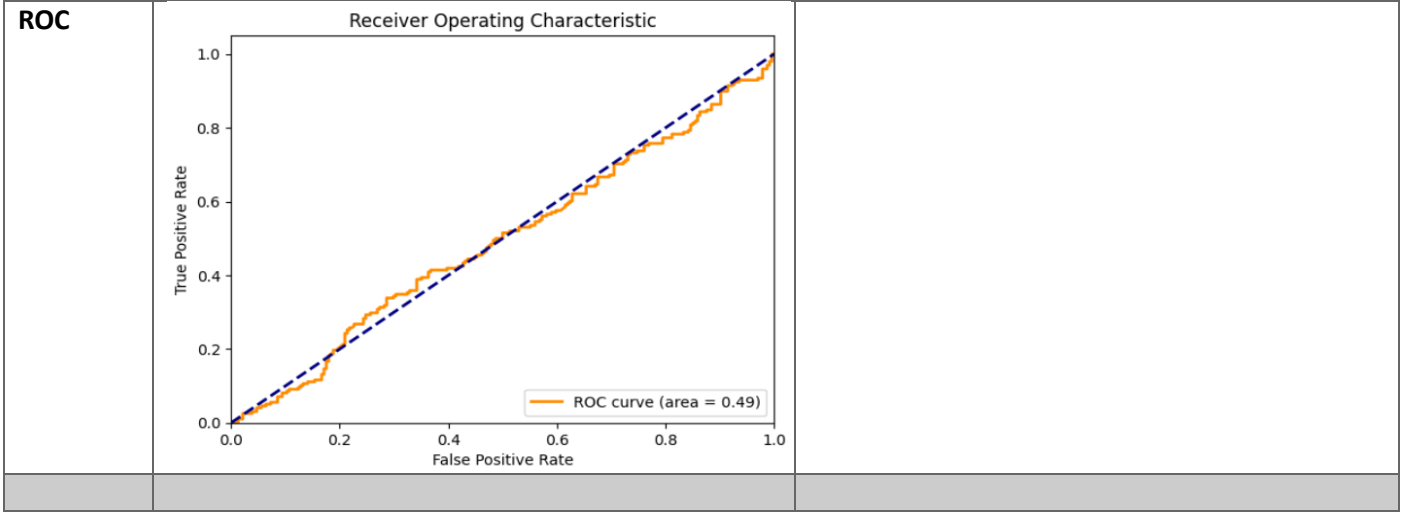|	BEFORE K FOLD	AFTER K FOLD
Accuracy	0.5416666865348816	**54.14492607116699** Score per fold --- > Fold 1 - Loss: 0.6872899532318115 - Accuracy: 55.942028760910034% --- > Fold 2 - Loss: 0.6937606930732727 - Accuracy: 52.753621339797974% --- > Fold 3 - Loss: 0.6870582699775696 - Accuracy: 57.10144639015198% --- > Fold 4 - Loss: 0.6880152821540833 - Accuracy: 55.07246255874634% --- > Fold 5 - Loss: 0.698686420917511 - Accuracy: 49.85507130622864% --- Average scores for all folds: > Accuracy: 54.14492607116699 (+- 2.5756357339359113) > Loss: 0.6909621238708497

Confusion Matrix		
Model Loss		
Model Accuracy		

ROC		

Receiver Operating Characteristic

ROC curve (area = 0.49)

	BEFORE K FOLD	AFTER K FOLD
Accuracy		
Confusion Matrix		
Model Loss		
Model Accuracy		
ROC		

LAYERS

Model: "sequential"

Layer (type)	Output Shape	Param #
efficientnetb0 (Functional)	(None, 7, 7, 1280)	4,049,571
global_average_pooling2d (GlobalAveragePooling2D)	(None, 1280)	0
dense (Dense)	(None, 128)	163,968
dense_1 (Dense)	(None, 1)	129

Total params: 4,541,864 (17.33 MB)

Trainable params: 164,097 (641.00 KB)

Non-trainable params: 4,049,571 (15.45 MB)

Optimizer params: 328,196 (1.25 MB)