Project 1st : Fake face detection

Problem statement:

Fake videos can now be created using a machine learning technique called a "generative adversarial network", or a GAN. A graduate student, Ian Goodfellow, invented GANs in 2014 as a way to algorithmically generate new types of data out of existing data sets. This technique can help us in many ways but there is always an opposite site of any technology in this world.Today people are using GAN for frauds like, they can easily make false identities. And this will also affect areas like media. Because fake news can easily generate chaos in the socity. And fake facial images play a major role in this. so we know that we have the technology now to generate random faces which looks like real but we also have the same technology which can help us in solving this problem and that is machine learnig.

The resources used in this project

1. For the fake facial image data set i used the 1 million fake face data set which i got from the link.

   https://archive.org/download/1mFakeFaces

1. For the real facial image data set i used celeb_hq data set in the size of 256x256 from the given link.

   https://www.tensorflow.org/datasets/catalog/celeb_a_hq

1. I implemented the Research paper to solve this problem. with some modification for this problem.

   https://www.mdpi.com/2076-3417/8/12/2610/htm

1. And for the improvement of the model i used another new technique called as gram block mention in this research paper.

   https://openreview.net/forum?id=HyxcZT4KwB

1. Importing all the important libraries

In [1]:

```python
import numpy as np
import os
import glob
import cv2
import matplotlib.pyplot as plt
import pandas as pd
import pickle
import tensorflow as tf
from tensorflow import keras
from tensorflow.keras.models import Sequential
from tensorflow.keras.utils import to_categorical
from tensorflow.keras.layers import Dense, Input, Conv2D, Flatten, MaxPooling2D, Activation, Dropout, Average , BatchNormalization
from tensorflow.keras.models import Model
from tensorflow.keras.models import load_model
from tensorflow.keras.optimizers import Adam
from tensorflow.keras.losses import binary_crossentropy
from tensorflow.keras.callbacks import ModelCheckpoint
from tensorflow.keras import callbacks
from tensorflow.keras import backend as K
from sklearn.model_selection import train_test_split
from sklearn.model_selection import KFold
from sklearn.model_selection import StratifiedKFold
from tensorflow.keras.preprocessing.image import ImageDataGenerator
from sklearn.preprocessing import OneHotEncoder
from sklearn.utils import compute_class_weight
from sklearn.preprocessing import LabelEncoder
from sklearn.metrics import roc_auc_score , f1_score
import scipy
from sklearn.manifold import TSNE
import seaborn as sns
import tensorflow_addons as tfa
from keras.utils import to_categorical
```

/usr/local/lib/python3.6/dist-packages/statsmodels/tools/_testing.py:19: FutureWarning: pandas.util.testing is deprecated. Use the functions in the public API at pandas.testing instead.
  import pandas.util.testing as tm
Using TensorFlow backend.

```
from google.colab import drive
drive.mount('/gdrive')
%cd /gdrive
```

Go to this URL in a browser: https://accounts.google.com/o/oauth2/auth?client_id=947318989803-6bn6qk8qdgf4n4g3pfee6491hc0brc4i.apps.google
usercontent.com&redirect_uri=urn%3aietf%3awg%3aoauth%3a2.0%3aoob&response_type=code&scope=email%20https%3a%2f%2fwww.googleapi
s.com%2fauth%2fdocs.test%20https%3a%2f%2fwww.googleapis.com%2fauth%2fdrive%20https%3a%2f%2fwww.googleapis.com%2fauth%2fdrive.
photos.readonly%20https%3a%2f%2fwww.googleapis.com%2fauth%2fpeopleapi.readonly

Enter your authorization code:
....
Mounted at /gdrive
/gdrive

2. Visualizing the images real and fake both

In [2]:

```
#https://matplotlib.org/3.1.1/gallery/axes_grid1/simple_axesgrid.html
import matplotlib.pyplot as plt
from mpl_toolkits.axes_grid1 import ImageGrid
import matplotlib.image as mpimg
import cv2 , glob

im1 = mpimg.imread("C:\\Users\\my pc\\Downloads\\data256x256\\00001.jpg")
im2 = mpimg.imread("C:\\Users\\my pc\\Downloads\\1m_faces_00\\00001.jpg")

dim = (256, 256)
# resize image
im3 = cv2.resize(im1, dim, interpolation = cv2.INTER_AREA)
im4 = cv2.resize(im2, dim, interpolation = cv2.INTER_AREA)

fig = plt.figure(figsize=(6., 6.))
grid = ImageGrid(fig, 111,  # similar to subplot(111)
          nrows_ncols=(2, 2),  # creates 2x2 grid of axes
          axes_pad=0.1,  # pad between axes in inch.
          )

for ax, im , legend in zip(grid, [im3, im4] , ["real" , "fake"]):
    # Iterating over the grid returns the Axes.
    ax.set_title(legend)
    ax.imshow(im)

plt.show()
```
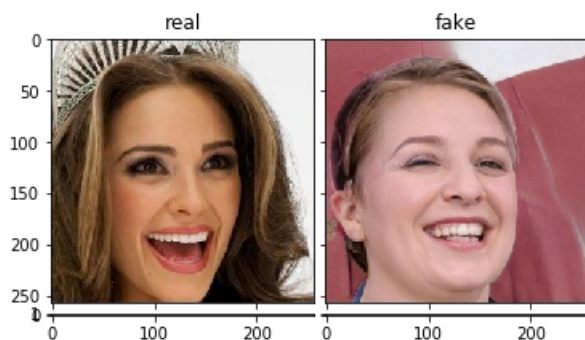

3. Creating a face detector and alignment using dlib

In [0]:

```
#http://dlib.net/face_alignment.py.html


#loding and initializing the face detector
detector = dlib.get_frontal_face_detector()

# loding and initializing the pretrained facial landmark detector model from the dlib lib
sp = dlib.shape_predictor("C:\\Users\\my pc\\Downloads\\Extra files\\shape_predictor_68_face_landmarks.dat")
n = []
```

```python
# loding the images
for image in tqdm(glob.iglob("C:\\Users\\my pc\\Downloads\\data256x256\\*.JPG")):

    #read the image using openCV library
    img = cv2.imread(image)

    # Ask the detector to find the bounding boxes of each face. The 1 in the
    # second argument indicates that we should upsample the image 1 time. This
    # will make everything bigger and allow us to detect more faces

    det = detector(img, 1)

    # Find the 5 face landmarks we need to do the alignment.
    faces = dlib.full_object_detections()
    for detection in det:
        faces.append(sp(img, detection))

    # we are using try and expect block for this code because we need to process the whole file full of pictures
    # and if we run the code without this block then only a single picture which does not consist the face can currupt
    # the whole loop.
    try:
        # Get the aligned face images
        image = dlib.get_face_chips(img, faces, size=64)# wiht the size of 224 for vgg16 architecture and 64 for our model.
    except RuntimeError:
        #print("no")
        pass
    #converting detected and aligned faces into the gray scale.
    a = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
    n.append(a)
```

In [12]:

```python
#https://matplotlib.org/3.1.1/gallery/axes_grid1/simple_axesgrid.html

im1 = mpimg.imread("C:\\Users\\my pc\\Downloads\\celeba-dataset\\project_data\\resized images\\vizualization folder\\000001.JPG")
im2 = mpimg.imread("C:\\Users\\my pc\\Downloads\\celeba-dataset\\project_data\\resized images\\vizualization folder\\00001.jpg")
im3 = mpimg.imread("C:\\Users\\my pc\\Downloads\\celeba-dataset\\project_data\\resized images\\vizualization folder\\000002.PNG")
im4 = mpimg.imread("C:\\Users\\my pc\\Downloads\\celeba-dataset\\project_data\\resized images\\vizualization folder\\00002.PNG")

dim = (256, 256)
# resize image
im5 = cv2.resize(im1, dim, interpolation = cv2.INTER_AREA)
im6 = cv2.resize(im2, dim, interpolation = cv2.INTER_AREA)

fig = plt.figure(figsize=(6., 6.))
grid = ImageGrid(fig, 111,  # similar to subplot(111)
            nrows_ncols=(2, 2),  # creates 2x2 grid of axes
            axes_pad=0.1,  # pad between axes in inch.
            )

for ax, im , legend in zip(grid, [im5 , im6 , im3 , im4] , ["real" , "fake" , _ , _]):
    # Iterating over the grid returns the Axes.
    ax.set_title(legend)
    ax.imshow(im , cmap='gray')

plt.show()
```
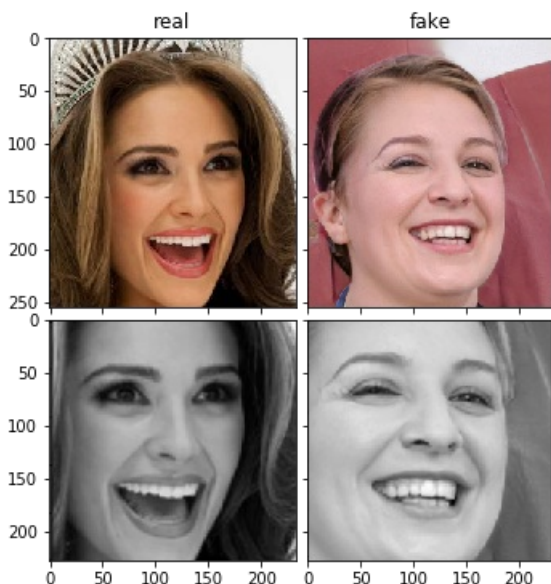
4. loading the pre created numpy file after the face detection alignment and converting in grayscale mode for size 64x64

4.1 Loading the real data

In [3]:

```
a = np.load("/gdrive/My Drive/my_new2_real_data.npy")
Data_real = a[:20000]
print("shape of data is ==" , Data_real.shape)
```

shape of data is == (20000, 64, 64)

4.2 Creating the real labels

In [4]:

```
real_label = ["real"]*Data_real.shape[0]
print(len(real_label) , real_label[:3])
```

20000 ['real', 'real', 'real']

4.3 Loading the fake data

In [6]:

```
Data_fake = np.load("/gdrive/My Drive/my_new2_fake_data.npy")
print("shape of data is ==" , Data_fake.shape)
```

shape of data is == (20000, 64, 64)

4.4 Creating the fake labels

In [7]:

```
fake_label = ["fake"]*Data_fake.shape[0]
print(len(fake_label) , fake_label[:3])
```

20000 ['fake', 'fake', 'fake']

4.5 Conacatenating the final data

In [8]:

```
final_data = np.concatenate((Data_real , Data_fake)  , axis = 0)
Final_data = final_data.reshape(final_data.shape[0] , final_data.shape[1] , final_data.shape[2] , 1)
print("shape of final data is ==" , Final_data.shape)
```

shape of final data is == (40000, 64, 64, 1)

4.6 Encoding the labels and concantenating

In [9]:

```
label = LabelEncoder()

final_label = []
final_label.extend(real_label)
final_label.extend(fake_label)
y_label = label.fit_transform(final_label)
print("shape of labels is = " , len(final_label))
```

shape of labels is = 40000

5. visualizing the data in the 2d form

In [10]:

```
tsne_data = final_data.reshape(40000 , 64*64 )
tsne_data.shape
```

Out[10]:

```
(40000, 4096)
```

In [0]:

```
tsne = TSNE(n_components=2, perplexity=50, learning_rate=200)
X_embedding = tsne.fit_transform(tsne_data)
```

In [0]:

```
for_tsne = np.hstack((X_embedding, y_label.reshape(-1,1)))
for_tsne_df = pd.DataFrame(data=for_tsne, columns=['Dim_1','Dim_2','score'])
sns.FacetGrid(for_tsne_df, hue="score", size=6).map(plt.scatter, 'Dim_1', 'Dim_2').add_legend()
plt.title('Data_visualition')
plt.show()
```

/usr/local/lib/python3.6/dist-packages/seaborn/axisgrid.py:243: UserWarning: The `size` parameter has been renamed to `height`; please update your code.
  warnings.warn(msg, UserWarning)
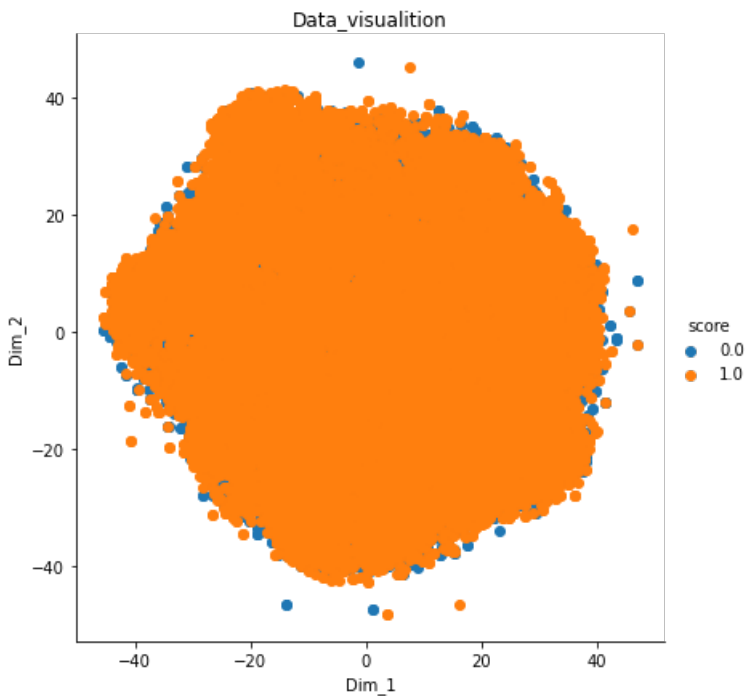
Observation:

- THE data is highly overlapping which means the distribution of the real and fake image data is nearly similar.

6. Loding precreated real and fake data after detection and alignment with size 64

6.1 Dividing data for the vgg16 or base model

In [12]:

```
X_train, X_test, Y_train, Y_test = train_test_split(Final_data, y_label, test_size=0.2, random_state=42 , stratify = y_label)
X_train, X_cv, Y_train, Y_cv = train_test_split(X_train, Y_train, test_size=0.2, random_state=42 , stratify = Y_train)
print(X_train.shape , len(Y_train))
print(X_cv.shape , len(Y_cv))
print(X_test.shape , len(Y_test))
```

```
(25600, 64, 64, 1) 25600
(6400, 64, 64, 1) 6400
(8000, 64, 64, 1) 8000
```

```
y_train = to_categorical(Y_train)
y_cv = to_categorical(Y_cv)
y_test = to_categorical(Y_test)
print(y_train.shape)
print(y_cv.shape)
print(y_test.shape)
```

(25600, 2)
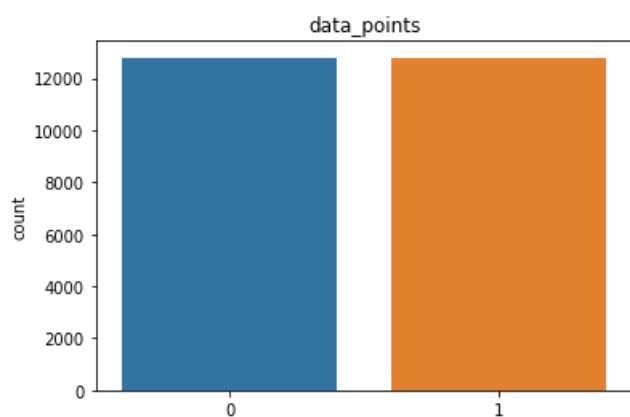(6400, 2)
(8000, 2)

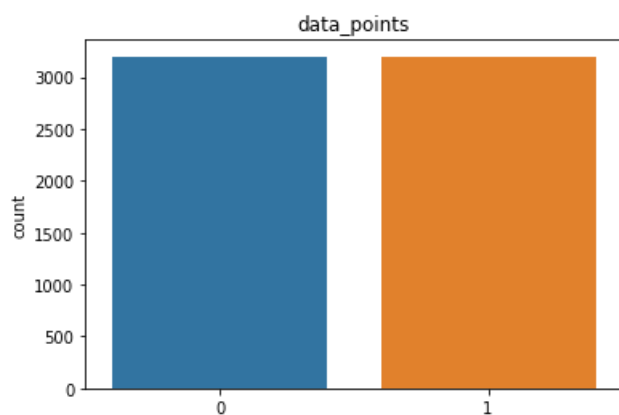**6.2 Checking the distribution of data in each division.**

```
sns.countplot(Y_train)
plt.title("data_points")
plt.show()
```

```
sns.countplot(Y_cv)
plt.title("data_points")
plt.show()
```
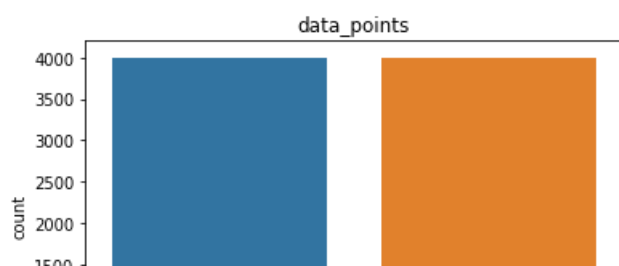
```
sns.countplot(Y_test)
plt.title("data_points")
plt.show()
```

Observation:

- All the three division train , cv and test has the same distribution of fake and real labels

7. Creating additional matrix fuction

In [0]:

```
def auc(y_true, y_pred):
    try:
        var = tf.py_function(roc_auc_score, (y_true, y_pred), tf.double)
        return var
    except ValueError:
        pass
```

In [0]:

```
f1_score = tfa.metrics.F1Score(num_classes = 2,   average='macro',
    threshold=None,
    name='f1_score',
    dtype=tf.float32)
```

8. Creating the model vgg16

In [0]:

```
#https://towardsdatascience.com/step-by-step-vgg16-implementation-in-keras-for-beginners-a833c686ae6c
def create_model1():
  model = Sequential()

  model.add(Conv2D(input_shape=(64,64,1),filters=64,kernel_size=(3,3),padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=64,kernel_size=(3,3),padding="same", activation=tf.nn.relu))

  model.add(MaxPooling2D(pool_size=(2,2),strides=(2,2)))

  model.add(Conv2D(filters=128, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=128, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(MaxPooling2D(pool_size=(2,2),strides=(2,2)))

  model.add(Conv2D(filters=256, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=256, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=256, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(MaxPooling2D(pool_size=(2,2),strides=(2,2)))

  model.add(Conv2D(filters=512, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=512, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=512, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(MaxPooling2D(pool_size=(2,2),strides=(2,2)))

  model.add(Conv2D(filters=512, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=512, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(Conv2D(filters=512, kernel_size=(3,3), padding="same", activation=tf.nn.relu))

  model.add(MaxPooling2D(pool_size=(2,2),strides=(2,2)))

  model.add(Flatten())
```

```
    model.add(Dense(units=4096,activation=tf.nn.relu))
    model.add(BatchNormalization())

    model.add(Dense(units=4096,activation=tf.nn.relu))
    model.add(BatchNormalization())
    model.add(Dense(units=2, activation=tf.nn.softmax))
    return model
```

9. Creating model checkpoints for model 1

In [0]:

```
logdir = "/gdrive/My Drive/logs"
tensorboard_callback = tf.keras.callbacks.TensorBoard(log_dir = logdir, histogram_freq=1)
filepath = "/gdrive/My Drive/vgg_16_classifier.h5"
checkpoint = ModelCheckpoint(filepath=filepath,
                    monitor='val_accuracy',
                    verbose=1,
                    save_best_only=True , mode = "max")
```

In [0]:

```
model = create_model1()
model.compile(optimizer=Adam(0.001),
        loss=binary_crossentropy,
        metrics=[f1_score , 'accuracy' , auc])
```

10. Fit the model and visulaizing the results

In [0]:

```
model = create_model1()
model.compile(optimizer=Adam(0.001),
        loss=binary_crossentropy,
        metrics=[f1_score , 'accuracy' , auc])
model.fit(X_train, y_train, batch_size = 64,
     epochs=500,
     validation_data=(X_cv, y_cv),steps_per_epoch=50,
     callbacks = [tensorboard_callback , checkpoint])
```

```
Epoch 1/500
50/50 [==============================] - ETA: 0s - loss: 1.1156 - f1_score: 0.5331 - accuracy: 0.5331 - auc: 0.5418
Epoch 00001: val_accuracy improved from -inf to 0.50000, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 505ms/step - loss: 1.1156 - f1_score: 0.5331 - accuracy: 0.5331 - auc: 0.5418 - val_loss: 7.524
1 - val_f1_score: 0.3333 - val_accuracy: 0.5000 - val_auc: 0.5799
Epoch 2/500
50/50 [==============================] - ETA: 0s - loss: 0.7393 - f1_score: 0.5678 - accuracy: 0.5678 - auc: 0.5803
Epoch 00002: val_accuracy did not improve from 0.50000
50/50 [==============================] - 23s 461ms/step - loss: 0.7393 - f1_score: 0.5678 - accuracy: 0.5678 - auc: 0.5803 - val_loss: 1.609
3 - val_f1_score: 0.3333 - val_accuracy: 0.5000 - val_auc: 0.5837
Epoch 3/500
50/50 [==============================] - ETA: 0s - loss: 0.7616 - f1_score: 0.5488 - accuracy: 0.5491 - auc: 0.5932
Epoch 00003: val_accuracy did not improve from 0.50000
50/50 [==============================] - 23s 455ms/step - loss: 0.7616 - f1_score: 0.5488 - accuracy: 0.5491 - auc: 0.5932 - val_loss: 7.668
5 - val_f1_score: 0.3333 - val_accuracy: 0.5000 - val_auc: 0.5695
Epoch 4/500
50/50 [==============================] - ETA: 0s - loss: 0.6799 - f1_score: 0.6074 - accuracy: 0.6075 - auc: 0.6429
Epoch 00004: val_accuracy improved from 0.50000 to 0.58125, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 27s 533ms/step - loss: 0.6799 - f1_score: 0.6074 - accuracy: 0.6075 - auc: 0.6429 - val_loss: 0.778
4 - val_f1_score: 0.5303 - val_accuracy: 0.5813 - val_auc: 0.6859
Epoch 5/500
50/50 [==============================] - ETA: 0s - loss: 0.6592 - f1_score: 0.6468 - accuracy: 0.6469 - auc: 0.7006
Epoch 00005: val_accuracy improved from 0.58125 to 0.61766, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 505ms/step - loss: 0.6592 - f1_score: 0.6468 - accuracy: 0.6469 - auc: 0.7006 - val_loss: 0.636
7 - val_f1_score: 0.5745 - val_accuracy: 0.6177 - val_auc: 0.7678
Epoch 6/500
50/50 [==============================] - ETA: 0s - loss: 0.6551 - f1_score: 0.6580 - accuracy: 0.6581 - auc: 0.7124
Epoch 00006: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 466ms/step - loss: 0.6551 - f1_score: 0.6580 - accuracy: 0.6581 - auc: 0.7124 - val_loss: 1.424
5 - val_f1_score: 0.3414 - val_accuracy: 0.4889 - val_auc: 0.4740
Epoch 7/500
50/50 [==============================] - ETA: 0s - loss: 0.6422 - f1_score: 0.6737 - accuracy: 0.6737 - auc: 0.7239
Epoch 00007: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 455ms/step - loss: 0.6422 - f1_score: 0.6737 - accuracy: 0.6737 - auc: 0.7239 - val_loss: 3.368
7 - val_f1_score: 0.3427 - val_accuracy: 0.5025 - val_auc: 0.7570
Epoch 8/500
50/50 [                              ] - ETA: 0s - loss: 0.6509 - f1_score: 0.6687 - accuracy: 0.6687 - auc: 0.7232
```

50/50 [==============================] - ETA: 0s - loss: 0.6509 - f1_score: 0.6687 - accuracy: 0.6687 - auc: 0.7232
Epoch 00008: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 454ms/step - loss: 0.6509 - f1_score: 0.6687 - accuracy: 0.6687 - auc: 0.7232 - val_loss: 0.694
4 - val_f1_score: 0.5474 - val_accuracy: 0.6006 - val_auc: 0.7496
Epoch 9/500
50/50 [==============================] - ETA: 0s - loss: 0.6632 - f1_score: 0.6624 - accuracy: 0.6628 - auc: 0.7212
Epoch 00009: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 456ms/step - loss: 0.6632 - f1_score: 0.6624 - accuracy: 0.6628 - auc: 0.7212 - val_loss: 2.950
0 - val_f1_score: 0.3437 - val_accuracy: 0.5019 - val_auc: 0.5972
Epoch 10/500
50/50 [==============================] - ETA: 0s - loss: 0.6865 - f1_score: 0.6514 - accuracy: 0.6516 - auc: 0.7066
Epoch 00010: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 454ms/step - loss: 0.6865 - f1_score: 0.6514 - accuracy: 0.6516 - auc: 0.7066 - val_loss: 7.654
1 - val_f1_score: 0.3333 - val_accuracy: 0.5000 - val_auc: 0.5231
Epoch 11/500
50/50 [==============================] - ETA: 0s - loss: 0.6747 - f1_score: 0.6747 - accuracy: 0.6750 - auc: 0.7254
Epoch 00011: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 455ms/step - loss: 0.6747 - f1_score: 0.6747 - accuracy: 0.6750 - auc: 0.7254 - val_loss: 7.668
5 - val_f1_score: 0.3333 - val_accuracy: 0.5000 - val_auc: 0.5000
Epoch 12/500
50/50 [==============================] - ETA: 0s - loss: 0.6283 - f1_score: 0.6803 - accuracy: 0.6803 - auc: 0.7479
Epoch 00012: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 456ms/step - loss: 0.6283 - f1_score: 0.6803 - accuracy: 0.6803 - auc: 0.7479 - val_loss: 1.950
8 - val_f1_score: 0.5090 - val_accuracy: 0.5778 - val_auc: 0.7227
Epoch 13/500
50/50 [==============================] - ETA: 0s - loss: 0.6613 - f1_score: 0.6759 - accuracy: 0.6759 - auc: 0.7403
Epoch 00013: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 455ms/step - loss: 0.6613 - f1_score: 0.6759 - accuracy: 0.6759 - auc: 0.7403 - val_loss: 4.244
7 - val_f1_score: 0.3332 - val_accuracy: 0.4991 - val_auc: 0.5813
Epoch 14/500
50/50 [==============================] - ETA: 0s - loss: 0.7824 - f1_score: 0.6719 - accuracy: 0.6719 - auc: 0.7231
Epoch 00014: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 464ms/step - loss: 0.7824 - f1_score: 0.6719 - accuracy: 0.6719 - auc: 0.7231 - val_loss: 3.861
7 - val_f1_score: 0.3328 - val_accuracy: 0.4989 - val_auc: 0.7557
Epoch 15/500
50/50 [==============================] - ETA: 0s - loss: 0.6180 - f1_score: 0.7181 - accuracy: 0.7181 - auc: 0.7804
Epoch 00015: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 455ms/step - loss: 0.6180 - f1_score: 0.7181 - accuracy: 0.7181 - auc: 0.7804 - val_loss: 6.100
2 - val_f1_score: 0.3333 - val_accuracy: 0.4998 - val_auc: 0.7219
Epoch 16/500
50/50 [==============================] - ETA: 0s - loss: 0.5874 - f1_score: 0.7271 - accuracy: 0.7272 - auc: 0.7920
Epoch 00016: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 454ms/step - loss: 0.5874 - f1_score: 0.7271 - accuracy: 0.7272 - auc: 0.7920 - val_loss: 3.574
1 - val_f1_score: 0.3519 - val_accuracy: 0.5042 - val_auc: 0.7358
Epoch 17/500
50/50 [==============================] - ETA: 0s - loss: 0.5463 - f1_score: 0.7410 - accuracy: 0.7412 - auc: 0.8112
Epoch 00017: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 455ms/step - loss: 0.5463 - f1_score: 0.7410 - accuracy: 0.7412 - auc: 0.8112 - val_loss: 1.104
3 - val_f1_score: 0.4689 - val_accuracy: 0.5566 - val_auc: 0.7878
Epoch 18/500
50/50 [==============================] - ETA: 0s - loss: 0.5980 - f1_score: 0.7325 - accuracy: 0.7325 - auc: 0.7920
Epoch 00018: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 456ms/step - loss: 0.5980 - f1_score: 0.7325 - accuracy: 0.7325 - auc: 0.7920 - val_loss: 1.259
3 - val_f1_score: 0.4425 - val_accuracy: 0.5255 - val_auc: 0.7845
Epoch 19/500
50/50 [==============================] - ETA: 0s - loss: 0.6396 - f1_score: 0.6959 - accuracy: 0.6959 - auc: 0.7659
Epoch 00019: val_accuracy did not improve from 0.61766
50/50 [==============================] - 23s 456ms/step - loss: 0.6396 - f1_score: 0.6959 - accuracy: 0.6959 - auc: 0.7659 - val_loss: 1.071
6 - val_f1_score: 0.5480 - val_accuracy: 0.6114 - val_auc: 0.8335
Epoch 20/500
50/50 [==============================] - ETA: 0s - loss: 0.5682 - f1_score: 0.7302 - accuracy: 0.7306 - auc: 0.8024
Epoch 00020: val_accuracy improved from 0.61766 to 0.70266, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 503ms/step - loss: 0.5682 - f1_score: 0.7302 - accuracy: 0.7306 - auc: 0.8024 - val_loss: 0.577
2 - val_f1_score: 0.7027 - val_accuracy: 0.7027 - val_auc: 0.7707
Epoch 21/500
50/50 [==============================] - ETA: 0s - loss: 0.5980 - f1_score: 0.7159 - accuracy: 0.7159 - auc: 0.7899
Epoch 00021: val_accuracy did not improve from 0.70266
50/50 [==============================] - 23s 460ms/step - loss: 0.5980 - f1_score: 0.7159 - accuracy: 0.7159 - auc: 0.7899 - val_loss: 1.189
3 - val_f1_score: 0.4020 - val_accuracy: 0.5283 - val_auc: 0.8182
Epoch 22/500
50/50 [==============================] - ETA: 0s - loss: 0.6034 - f1_score: 0.7102 - accuracy: 0.7103 - auc: 0.7957
Epoch 00022: val_accuracy improved from 0.70266 to 0.72922, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 26s 527ms/step - loss: 0.6034 - f1_score: 0.7102 - accuracy: 0.7103 - auc: 0.7957 - val_loss: 0.643
8 - val_f1_score: 0.7291 - val_accuracy: 0.7292 - val_auc: 0.7970
Epoch 23/500
50/50 [==============================] - ETA: 0s - loss: 0.5868 - f1_score: 0.7259 - accuracy: 0.7259 - auc: 0.7893
Epoch 00023: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 459ms/step - loss: 0.5868 - f1_score: 0.7259 - accuracy: 0.7259 - auc: 0.7893 - val_loss: 1.299
9 - val_f1_score: 0.4432 - val_accuracy: 0.5381 - val_auc: 0.7129
Epoch 24/500
50/50 [==============================] - ETA: 0s - loss: 0.5638 - f1_score: 0.7425 - accuracy: 0.7425 - auc: 0.8149
Epoch 00024: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 456ms/step - loss: 0.5638 - f1_score: 0.7425 - accuracy: 0.7425 - auc: 0.8149 - val_loss: 0.696

4 - val_f1_score: 0.5826 - val_accuracy: 0.6300 - val_auc: 0.8529
Epoch 25/500
50/50 [==============================] - ETA: 0s - loss: 0.5523 - f1_score: 0.7404 - accuracy: 0.7406 - auc: 0.8138
Epoch 00025: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 457ms/step - loss: 0.5523 - f1_score: 0.7404 - accuracy: 0.7406 - auc: 0.8138 - val_loss: 1.440
9 - val_f1_score: 0.3384 - val_accuracy: 0.5008 - val_auc: 0.8145
Epoch 26/500
50/50 [==============================] - ETA: 0s - loss: 0.5458 - f1_score: 0.7494 - accuracy: 0.7494 - auc: 0.8222
Epoch 00026: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 453ms/step - loss: 0.5458 - f1_score: 0.7494 - accuracy: 0.7494 - auc: 0.8222 - val_loss: 1.825
0 - val_f1_score: 0.3556 - val_accuracy: 0.5092 - val_auc: 0.8033
Epoch 27/500
50/50 [==============================] - ETA: 0s - loss: 0.5544 - f1_score: 0.7462 - accuracy: 0.7462 - auc: 0.8240
Epoch 00027: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 456ms/step - loss: 0.5544 - f1_score: 0.7462 - accuracy: 0.7462 - auc: 0.8240 - val_loss: 1.002
1 - val_f1_score: 0.5926 - val_accuracy: 0.6350 - val_auc: 0.8260
Epoch 28/500
50/50 [==============================] - ETA: 0s - loss: 0.5956 - f1_score: 0.7251 - accuracy: 0.7253 - auc: 0.7980
Epoch 00028: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 454ms/step - loss: 0.5956 - f1_score: 0.7251 - accuracy: 0.7253 - auc: 0.7980 - val_loss: 2.458
1 - val_f1_score: 0.3333 - val_accuracy: 0.5000 - val_auc: 0.8453
Epoch 29/500
50/50 [==============================] - ETA: 0s - loss: 0.5071 - f1_score: 0.7630 - accuracy: 0.7638 - auc: 0.8413
Epoch 00029: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 453ms/step - loss: 0.5071 - f1_score: 0.7630 - accuracy: 0.7638 - auc: 0.8413 - val_loss: 1.582
8 - val_f1_score: 0.3553 - val_accuracy: 0.5086 - val_auc: 0.7506
Epoch 30/500
50/50 [==============================] - ETA: 0s - loss: 0.5663 - f1_score: 0.7350 - accuracy: 0.7353 - auc: 0.8180
Epoch 00030: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 457ms/step - loss: 0.5663 - f1_score: 0.7350 - accuracy: 0.7353 - auc: 0.8180 - val_loss: 0.922
5 - val_f1_score: 0.4757 - val_accuracy: 0.5630 - val_auc: 0.6740
Epoch 31/500
50/50 [==============================] - ETA: 0s - loss: 0.5306 - f1_score: 0.7628 - accuracy: 0.7631 - auc: 0.8372
Epoch 00031: val_accuracy did not improve from 0.72922
50/50 [==============================] - 23s 455ms/step - loss: 0.5306 - f1_score: 0.7628 - accuracy: 0.7631 - auc: 0.8372 - val_loss: 1.489
8 - val_f1_score: 0.3945 - val_accuracy: 0.5264 - val_auc: 0.8732
Epoch 32/500
50/50 [==============================] - ETA: 0s - loss: 0.5387 - f1_score: 0.7600 - accuracy: 0.7600 - auc: 0.8425
Epoch 00032: val_accuracy improved from 0.72922 to 0.73641, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 500ms/step - loss: 0.5387 - f1_score: 0.7600 - accuracy: 0.7600 - auc: 0.8425 - val_loss: 1.018
2 - val_f1_score: 0.7306 - val_accuracy: 0.7364 - val_auc: 0.8434
Epoch 33/500
50/50 [==============================] - ETA: 0s - loss: 0.5621 - f1_score: 0.7417 - accuracy: 0.7425 - auc: 0.8244
Epoch 00033: val_accuracy did not improve from 0.73641
50/50 [==============================] - 23s 460ms/step - loss: 0.5621 - f1_score: 0.7417 - accuracy: 0.7425 - auc: 0.8244 - val_loss: 1.183
2 - val_f1_score: 0.6612 - val_accuracy: 0.6833 - val_auc: 0.8143
Epoch 34/500
50/50 [==============================] - ETA: 0s - loss: 0.5676 - f1_score: 0.7499 - accuracy: 0.7500 - auc: 0.8305
Epoch 00034: val_accuracy improved from 0.73641 to 0.73687, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 501ms/step - loss: 0.5676 - f1_score: 0.7499 - accuracy: 0.7500 - auc: 0.8305 - val_loss: 0.829
4 - val_f1_score: 0.7313 - val_accuracy: 0.7369 - val_auc: 0.8420
Epoch 35/500
50/50 [==============================] - ETA: 0s - loss: 0.5051 - f1_score: 0.7791 - accuracy: 0.7791 - auc: 0.8483
Epoch 00035: val_accuracy did not improve from 0.73687
50/50 [==============================] - 23s 463ms/step - loss: 0.5051 - f1_score: 0.7791 - accuracy: 0.7791 - auc: 0.8483 - val_loss: 0.693
4 - val_f1_score: 0.6962 - val_accuracy: 0.7148 - val_auc: 0.8675
Epoch 36/500
50/50 [==============================] - ETA: 0s - loss: 0.5071 - f1_score: 0.7753 - accuracy: 0.7753 - auc: 0.8569
Epoch 00036: val_accuracy did not improve from 0.73687
50/50 [==============================] - 23s 456ms/step - loss: 0.5071 - f1_score: 0.7753 - accuracy: 0.7753 - auc: 0.8569 - val_loss: 1.355
1 - val_f1_score: 0.5710 - val_accuracy: 0.6228 - val_auc: 0.8768
Epoch 37/500
50/50 [==============================] - ETA: 0s - loss: 0.4645 - f1_score: 0.7900 - accuracy: 0.7900 - auc: 0.8720
Epoch 00037: val_accuracy did not improve from 0.73687
50/50 [==============================] - 23s 455ms/step - loss: 0.4645 - f1_score: 0.7900 - accuracy: 0.7900 - auc: 0.8720 - val_loss: 7.670
1 - val_f1_score: 0.3335 - val_accuracy: 0.4998 - val_auc: 0.5114
Epoch 38/500
50/50 [==============================] - ETA: 0s - loss: 0.4675 - f1_score: 0.7855 - accuracy: 0.7856 - auc: 0.8726
Epoch 00038: val_accuracy did not improve from 0.73687
50/50 [==============================] - 23s 455ms/step - loss: 0.4675 - f1_score: 0.7855 - accuracy: 0.7856 - auc: 0.8726 - val_loss: 1.653
5 - val_f1_score: 0.3868 - val_accuracy: 0.5236 - val_auc: 0.7808
Epoch 39/500
50/50 [==============================] - ETA: 0s - loss: 0.4526 - f1_score: 0.7999 - accuracy: 0.8000 - auc: 0.8800
Epoch 00039: val_accuracy improved from 0.73687 to 0.79359, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 504ms/step - loss: 0.4526 - f1_score: 0.7999 - accuracy: 0.8000 - auc: 0.8800 - val_loss: 0.453
0 - val_f1_score: 0.7925 - val_accuracy: 0.7936 - val_auc: 0.8798
Epoch 40/500
50/50 [==============================] - ETA: 0s - loss: 0.4592 - f1_score: 0.7903 - accuracy: 0.7903 - auc: 0.8760
Epoch 00040: val_accuracy did not improve from 0.79359
50/50 [==============================] - 23s 462ms/step - loss: 0.4592 - f1_score: 0.7903 - accuracy: 0.7903 - auc: 0.8760 - val_loss: 0.517
6 - val_f1_score: 0.7610 - val_accuracy: 0.7667 - val_auc: 0.8860
Epoch 41/500
50/50 [==============================] - ETA: 0s - loss: 0.4405 - f1_score: 0.8106 - accuracy: 0.8106 - auc: 0.8884

50/50 [==============================] - 23s 457ms/step - loss: 0.4405 - f1_score: 0.8106 - accuracy: 0.8106 - auc: 0.8884 - val_loss: 0.7049 - val_f1_score: 0.7861 - val_accuracy: 0.7873 - val_auc: 0.8834
Epoch 42/500
50/50 [==============================] - ETA: 0s - loss: 0.4302 - f1_score: 0.8109 - accuracy: 0.8109 - auc: 0.8946
Epoch 00042: val_accuracy did not improve from 0.79359
50/50 [==============================] - 23s 455ms/step - loss: 0.4302 - f1_score: 0.8109 - accuracy: 0.8109 - auc: 0.8946 - val_loss: 0.4910 - val_f1_score: 0.7451 - val_accuracy: 0.7542 - val_auc: 0.8862
Epoch 43/500
50/50 [==============================] - ETA: 0s - loss: 0.4586 - f1_score: 0.7947 - accuracy: 0.7947 - auc: 0.8845
Epoch 00043: val_accuracy improved from 0.79359 to 0.80641, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 502ms/step - loss: 0.4586 - f1_score: 0.7947 - accuracy: 0.7947 - auc: 0.8845 - val_loss: 0.4733 - val_f1_score: 0.8064 - val_accuracy: 0.8064 - val_auc: 0.8911
Epoch 44/500
50/50 [==============================] - ETA: 0s - loss: 0.4214 - f1_score: 0.8097 - accuracy: 0.8100 - auc: 0.8965
Epoch 00044: val_accuracy did not improve from 0.80641
50/50 [==============================] - 23s 457ms/step - loss: 0.4214 - f1_score: 0.8097 - accuracy: 0.8100 - auc: 0.8965 - val_loss: 0.6589 - val_f1_score: 0.7216 - val_accuracy: 0.7358 - val_auc: 0.9051
Epoch 45/500
50/50 [==============================] - ETA: 0s - loss: 0.4444 - f1_score: 0.8044 - accuracy: 0.8044 - auc: 0.8896
Epoch 00045: val_accuracy improved from 0.80641 to 0.81906, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 502ms/step - loss: 0.4444 - f1_score: 0.8044 - accuracy: 0.8044 - auc: 0.8896 - val_loss: 0.3966 - val_f1_score: 0.8191 - val_accuracy: 0.8191 - val_auc: 0.9025
Epoch 46/500
50/50 [==============================] - ETA: 0s - loss: 0.4487 - f1_score: 0.8053 - accuracy: 0.8053 - auc: 0.8967
Epoch 00046: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 460ms/step - loss: 0.4487 - f1_score: 0.8053 - accuracy: 0.8053 - auc: 0.8967 - val_loss: 0.6758 - val_f1_score: 0.7932 - val_accuracy: 0.7947 - val_auc: 0.8833
Epoch 47/500
50/50 [==============================] - ETA: 0s - loss: 0.5388 - f1_score: 0.7818 - accuracy: 0.7819 - auc: 0.8635
Epoch 00047: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 455ms/step - loss: 0.5388 - f1_score: 0.7818 - accuracy: 0.7819 - auc: 0.8635 - val_loss: 0.4969 - val_f1_score: 0.7445 - val_accuracy: 0.7497 - val_auc: 0.8677
Epoch 48/500
50/50 [==============================] - ETA: 0s - loss: 0.4206 - f1_score: 0.8069 - accuracy: 0.8072 - auc: 0.8999
Epoch 00048: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 457ms/step - loss: 0.4206 - f1_score: 0.8069 - accuracy: 0.8072 - auc: 0.8999 - val_loss: 0.4363 - val_f1_score: 0.7896 - val_accuracy: 0.7931 - val_auc: 0.9076
Epoch 49/500
50/50 [==============================] - ETA: 0s - loss: 0.4149 - f1_score: 0.8244 - accuracy: 0.8244 - auc: 0.9054
Epoch 00049: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 456ms/step - loss: 0.4149 - f1_score: 0.8244 - accuracy: 0.8244 - auc: 0.9054 - val_loss: 1.0665 - val_f1_score: 0.4487 - val_accuracy: 0.5561 - val_auc: 0.8832
Epoch 50/500
50/50 [==============================] - ETA: 0s - loss: 0.4530 - f1_score: 0.8125 - accuracy: 0.8128 - auc: 0.8937
Epoch 00050: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 456ms/step - loss: 0.4530 - f1_score: 0.8125 - accuracy: 0.8128 - auc: 0.8937 - val_loss: 0.8303 - val_f1_score: 0.7199 - val_accuracy: 0.7355 - val_auc: 0.9063
Epoch 51/500
50/50 [==============================] - ETA: 0s - loss: 0.4269 - f1_score: 0.8130 - accuracy: 0.8131 - auc: 0.8955
Epoch 00051: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 455ms/step - loss: 0.4269 - f1_score: 0.8130 - accuracy: 0.8131 - auc: 0.8955 - val_loss: 0.5104 - val_f1_score: 0.7588 - val_accuracy: 0.7669 - val_auc: 0.9121
Epoch 52/500
50/50 [==============================] - ETA: 0s - loss: 0.4426 - f1_score: 0.8100 - accuracy: 0.8103 - auc: 0.8999
Epoch 00052: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 456ms/step - loss: 0.4426 - f1_score: 0.8100 - accuracy: 0.8103 - auc: 0.8999 - val_loss: 0.4475 - val_f1_score: 0.7745 - val_accuracy: 0.7816 - val_auc: 0.9184
Epoch 53/500
50/50 [==============================] - ETA: 0s - loss: 0.3988 - f1_score: 0.8312 - accuracy: 0.8313 - auc: 0.9137
Epoch 00053: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 455ms/step - loss: 0.3988 - f1_score: 0.8312 - accuracy: 0.8313 - auc: 0.9137 - val_loss: 0.5175 - val_f1_score: 0.7398 - val_accuracy: 0.7448 - val_auc: 0.8468
Epoch 54/500
50/50 [==============================] - ETA: 0s - loss: 0.4165 - f1_score: 0.8131 - accuracy: 0.8131 - auc: 0.9064
Epoch 00054: val_accuracy did not improve from 0.81906
50/50 [==============================] - 23s 455ms/step - loss: 0.4165 - f1_score: 0.8131 - accuracy: 0.8131 - auc: 0.9064 - val_loss: 0.4989 - val_f1_score: 0.8009 - val_accuracy: 0.8034 - val_auc: 0.9044
Epoch 55/500
50/50 [==============================] - ETA: 0s - loss: 0.4500 - f1_score: 0.8116 - accuracy: 0.8116 - auc: 0.8977
Epoch 00055: val_accuracy improved from 0.81906 to 0.82172, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 509ms/step - loss: 0.4500 - f1_score: 0.8116 - accuracy: 0.8116 - auc: 0.8977 - val_loss: 0.5722 - val_f1_score: 0.8212 - val_accuracy: 0.8217 - val_auc: 0.9043
Epoch 56/500
50/50 [==============================] - ETA: 0s - loss: 0.3938 - f1_score: 0.8281 - accuracy: 0.8281 - auc: 0.9133
Epoch 00056: val_accuracy improved from 0.82172 to 0.83250, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 28s 551ms/step - loss: 0.3938 - f1_score: 0.8281 - accuracy: 0.8281 - auc: 0.9133 - val_loss: 0.3775 - val_f1_score: 0.8321 - val_accuracy: 0.8325 - val_auc: 0.9185
Epoch 57/500
50/50 [==============================] - ETA: 0s - loss: 0.4041 - f1_score: 0.8221 - accuracy: 0.8222 - auc: 0.9105
Epoch 00057: val_accuracy did not improve from 0.83250
50/50 [==============================] - 23s 459ms/step - loss: 0.4041 - f1_score: 0.8221 - accuracy: 0.8222 - auc: 0.9105 - val_loss: 1.098

2 - val_f1_score: 0.5011 - val_accuracy: 0.5858 - val_auc: 0.9192
Epoch 58/500
50/50 [==============================] - ETA: 0s - loss: 0.3997 - f1_score: 0.8287 - accuracy: 0.8288 - auc: 0.9148
Epoch 00058: val_accuracy did not improve from 0.83250
50/50 [==============================] - 23s 457ms/step - loss: 0.3997 - f1_score: 0.8287 - accuracy: 0.8288 - auc: 0.9148 - val_loss: 1.945
1 - val_f1_score: 0.5688 - val_accuracy: 0.6275 - val_auc: 0.8429
Epoch 59/500
50/50 [==============================] - ETA: 0s - loss: 0.3926 - f1_score: 0.8346 - accuracy: 0.8347 - auc: 0.9191
Epoch 00059: val_accuracy did not improve from 0.83250
50/50 [==============================] - 23s 458ms/step - loss: 0.3926 - f1_score: 0.8346 - accuracy: 0.8347 - auc: 0.9191 - val_loss: 1.582
8 - val_f1_score: 0.3723 - val_accuracy: 0.5180 - val_auc: 0.8339
Epoch 60/500
50/50 [==============================] - ETA: 0s - loss: 0.3899 - f1_score: 0.8350 - accuracy: 0.8350 - auc: 0.9228
Epoch 00060: val_accuracy improved from 0.83250 to 0.83547, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 502ms/step - loss: 0.3899 - f1_score: 0.8350 - accuracy: 0.8350 - auc: 0.9228 - val_loss: 0.417
3 - val_f1_score: 0.8355 - val_accuracy: 0.8355 - val_auc: 0.9044
Epoch 61/500
50/50 [==============================] - ETA: 0s - loss: 0.3892 - f1_score: 0.8306 - accuracy: 0.8306 - auc: 0.9221
Epoch 00061: val_accuracy improved from 0.83547 to 0.84297, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 26s 512ms/step - loss: 0.3892 - f1_score: 0.8306 - accuracy: 0.8306 - auc: 0.9221 - val_loss: 0.405
7 - val_f1_score: 0.8424 - val_accuracy: 0.8430 - val_auc: 0.9289
Epoch 62/500
50/50 [==============================] - ETA: 0s - loss: 0.3548 - f1_score: 0.8493 - accuracy: 0.8494 - auc: 0.9318
Epoch 00062: val_accuracy did not improve from 0.84297
50/50 [==============================] - 23s 461ms/step - loss: 0.3548 - f1_score: 0.8493 - accuracy: 0.8494 - auc: 0.9318 - val_loss: 0.472
3 - val_f1_score: 0.7647 - val_accuracy: 0.7738 - val_auc: 0.9341
Epoch 63/500
50/50 [==============================] - ETA: 0s - loss: 0.3565 - f1_score: 0.8410 - accuracy: 0.8413 - auc: 0.9309
Epoch 00063: val_accuracy did not improve from 0.84297
50/50 [==============================] - 23s 456ms/step - loss: 0.3565 - f1_score: 0.8410 - accuracy: 0.8413 - auc: 0.9309 - val_loss: 0.396
7 - val_f1_score: 0.8307 - val_accuracy: 0.8330 - val_auc: 0.9351
Epoch 64/500
50/50 [==============================] - ETA: 0s - loss: 0.3738 - f1_score: 0.8421 - accuracy: 0.8422 - auc: 0.9253
Epoch 00064: val_accuracy did not improve from 0.84297
50/50 [==============================] - 23s 456ms/step - loss: 0.3738 - f1_score: 0.8421 - accuracy: 0.8422 - auc: 0.9253 - val_loss: 0.487
6 - val_f1_score: 0.8020 - val_accuracy: 0.8070 - val_auc: 0.9372
Epoch 65/500
50/50 [==============================] - ETA: 0s - loss: 0.3592 - f1_score: 0.8490 - accuracy: 0.8491 - auc: 0.9316
Epoch 00065: val_accuracy improved from 0.84297 to 0.84516, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 510ms/step - loss: 0.3592 - f1_score: 0.8490 - accuracy: 0.8491 - auc: 0.9316 - val_loss: 0.416
4 - val_f1_score: 0.8444 - val_accuracy: 0.8452 - val_auc: 0.9325
Epoch 66/500
50/50 [==============================] - ETA: 0s - loss: 0.3759 - f1_score: 0.8484 - accuracy: 0.8484 - auc: 0.9327
Epoch 00066: val_accuracy did not improve from 0.84516
50/50 [==============================] - 23s 460ms/step - loss: 0.3759 - f1_score: 0.8484 - accuracy: 0.8484 - auc: 0.9327 - val_loss: 0.384
0 - val_f1_score: 0.8366 - val_accuracy: 0.8378 - val_auc: 0.9336
Epoch 67/500
50/50 [==============================] - ETA: 0s - loss: 0.3481 - f1_score: 0.8462 - accuracy: 0.8462 - auc: 0.9357
Epoch 00067: val_accuracy improved from 0.84516 to 0.86094, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 505ms/step - loss: 0.3481 - f1_score: 0.8462 - accuracy: 0.8462 - auc: 0.9357 - val_loss: 0.333
4 - val_f1_score: 0.8608 - val_accuracy: 0.8609 - val_auc: 0.9377
Epoch 68/500
50/50 [==============================] - ETA: 0s - loss: 0.3723 - f1_score: 0.8459 - accuracy: 0.8462 - auc: 0.9241
Epoch 00068: val_accuracy did not improve from 0.86094
50/50 [==============================] - 23s 459ms/step - loss: 0.3723 - f1_score: 0.8459 - accuracy: 0.8462 - auc: 0.9241 - val_loss: 0.497
2 - val_f1_score: 0.7433 - val_accuracy: 0.7553 - val_auc: 0.9214
Epoch 69/500
50/50 [==============================] - ETA: 0s - loss: 0.3342 - f1_score: 0.8544 - accuracy: 0.8544 - auc: 0.9403
Epoch 00069: val_accuracy did not improve from 0.86094
50/50 [==============================] - 23s 456ms/step - loss: 0.3342 - f1_score: 0.8544 - accuracy: 0.8544 - auc: 0.9403 - val_loss: 0.338
9 - val_f1_score: 0.8573 - val_accuracy: 0.8573 - val_auc: 0.9296
Epoch 70/500
50/50 [==============================] - ETA: 0s - loss: 0.3627 - f1_score: 0.8534 - accuracy: 0.8534 - auc: 0.9297
Epoch 00070: val_accuracy improved from 0.86094 to 0.86641, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 26s 528ms/step - loss: 0.3627 - f1_score: 0.8534 - accuracy: 0.8534 - auc: 0.9297 - val_loss: 0.310
4 - val_f1_score: 0.8664 - val_accuracy: 0.8664 - val_auc: 0.9420
Epoch 71/500
50/50 [==============================] - ETA: 0s - loss: 0.3351 - f1_score: 0.8522 - accuracy: 0.8522 - auc: 0.9412
Epoch 00071: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 456ms/step - loss: 0.3351 - f1_score: 0.8522 - accuracy: 0.8522 - auc: 0.9412 - val_loss: 0.683
3 - val_f1_score: 0.7686 - val_accuracy: 0.7780 - val_auc: 0.9388
Epoch 72/500
50/50 [==============================] - ETA: 0s - loss: 0.3419 - f1_score: 0.8559 - accuracy: 0.8559 - auc: 0.9355
Epoch 00072: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 454ms/step - loss: 0.3419 - f1_score: 0.8559 - accuracy: 0.8559 - auc: 0.9355 - val_loss: 0.345
0 - val_f1_score: 0.8520 - val_accuracy: 0.8531 - val_auc: 0.9434
Epoch 73/500
50/50 [==============================] - ETA: 0s - loss: 0.3305 - f1_score: 0.8625 - accuracy: 0.8625 - auc: 0.9435
Epoch 00073: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 453ms/step - loss: 0.3305 - f1_score: 0.8625 - accuracy: 0.8625 - auc: 0.9435 - val_loss: 3.779
2 - val_f1_score: 0.6912 - val_accuracy: 0.7128 - val_auc: 0.8585
Epoch 74/500
50/50 [==============================] - ETA: 0s - loss: 0.3464 - f1_score: 0.8572 - accuracy: 0.8572 - auc: 0.9382

50/50 [==============================] - ETA: 0s - loss: 0.3464 - f1_score: 0.8572 - accuracy: 0.8572 - auc: 0.9382

Epoch 00074: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 455ms/step - loss: 0.3464 - f1_score: 0.8572 - accuracy: 0.8572 - auc: 0.9382 - val_loss: 0.3444 - val_f1_score: 0.8600 - val_accuracy: 0.8600 - val_auc: 0.9292
Epoch 75/500
50/50 [==============================] - ETA: 0s - loss: 0.3223 - f1_score: 0.8622 - accuracy: 0.8622 - auc: 0.9486
Epoch 00075: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 454ms/step - loss: 0.3223 - f1_score: 0.8622 - accuracy: 0.8622 - auc: 0.9486 - val_loss: 0.3585 - val_f1_score: 0.8664 - val_accuracy: 0.8664 - val_auc: 0.9359
Epoch 76/500
50/50 [==============================] - ETA: 0s - loss: 0.3575 - f1_score: 0.8481 - accuracy: 0.8481 - auc: 0.9369
Epoch 00076: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 454ms/step - loss: 0.3575 - f1_score: 0.8481 - accuracy: 0.8481 - auc: 0.9369 - val_loss: 0.6578 - val_f1_score: 0.8181 - val_accuracy: 0.8205 - val_auc: 0.9327
Epoch 77/500
50/50 [==============================] - ETA: 0s - loss: 0.3435 - f1_score: 0.8569 - accuracy: 0.8569 - auc: 0.9388
Epoch 00077: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 454ms/step - loss: 0.3435 - f1_score: 0.8569 - accuracy: 0.8569 - auc: 0.9388 - val_loss: 1.5155 - val_f1_score: 0.7677 - val_accuracy: 0.7759 - val_auc: 0.8763
Epoch 78/500
50/50 [==============================] - ETA: 0s - loss: 0.3909 - f1_score: 0.8350 - accuracy: 0.8353 - auc: 0.9227
Epoch 00078: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 455ms/step - loss: 0.3909 - f1_score: 0.8350 - accuracy: 0.8353 - auc: 0.9227 - val_loss: 0.3602 - val_f1_score: 0.8608 - val_accuracy: 0.8609 - val_auc: 0.9371
Epoch 79/500
50/50 [==============================] - ETA: 0s - loss: 0.3230 - f1_score: 0.8695 - accuracy: 0.8697 - auc: 0.9444
Epoch 00079: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 454ms/step - loss: 0.3230 - f1_score: 0.8695 - accuracy: 0.8697 - auc: 0.9444 - val_loss: 0.5408 - val_f1_score: 0.8543 - val_accuracy: 0.8553 - val_auc: 0.9439
Epoch 80/500
50/50 [==============================] - ETA: 0s - loss: 0.3266 - f1_score: 0.8619 - accuracy: 0.8619 - auc: 0.9472
Epoch 00080: val_accuracy did not improve from 0.86641
50/50 [==============================] - 23s 455ms/step - loss: 0.3266 - f1_score: 0.8619 - accuracy: 0.8619 - auc: 0.9472 - val_loss: 1.1267 - val_f1_score: 0.5185 - val_accuracy: 0.5964 - val_auc: 0.9409
Epoch 81/500
50/50 [==============================] - ETA: 0s - loss: 0.3000 - f1_score: 0.8725 - accuracy: 0.8725 - auc: 0.9507
Epoch 00081: val_accuracy improved from 0.86641 to 0.87422, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 494ms/step - loss: 0.3000 - f1_score: 0.8725 - accuracy: 0.8725 - auc: 0.9507 - val_loss: 0.3066 - val_f1_score: 0.8740 - val_accuracy: 0.8742 - val_auc: 0.9513
Epoch 82/500
50/50 [==============================] - ETA: 0s - loss: 0.3080 - f1_score: 0.8701 - accuracy: 0.8703 - auc: 0.9519
Epoch 00082: val_accuracy did not improve from 0.87422
50/50 [==============================] - 23s 458ms/step - loss: 0.3080 - f1_score: 0.8701 - accuracy: 0.8703 - auc: 0.9519 - val_loss: 0.4440 - val_f1_score: 0.7814 - val_accuracy: 0.7895 - val_auc: 0.9454
Epoch 83/500
50/50 [==============================] - ETA: 0s - loss: 0.3047 - f1_score: 0.8709 - accuracy: 0.8709 - auc: 0.9515
Epoch 00083: val_accuracy did not improve from 0.87422
50/50 [==============================] - 23s 456ms/step - loss: 0.3047 - f1_score: 0.8709 - accuracy: 0.8709 - auc: 0.9515 - val_loss: 0.4530 - val_f1_score: 0.8214 - val_accuracy: 0.8252 - val_auc: 0.9512
Epoch 84/500
50/50 [==============================] - ETA: 0s - loss: 0.2914 - f1_score: 0.8806 - accuracy: 0.8806 - auc: 0.9559
Epoch 00084: val_accuracy improved from 0.87422 to 0.87906, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 501ms/step - loss: 0.2914 - f1_score: 0.8806 - accuracy: 0.8806 - auc: 0.9559 - val_loss: 0.3348 - val_f1_score: 0.8790 - val_accuracy: 0.8791 - val_auc: 0.9497
Epoch 85/500
50/50 [==============================] - ETA: 0s - loss: 0.3099 - f1_score: 0.8771 - accuracy: 0.8772 - auc: 0.9542
Epoch 00085: val_accuracy did not improve from 0.87906
50/50 [==============================] - 23s 458ms/step - loss: 0.3099 - f1_score: 0.8771 - accuracy: 0.8772 - auc: 0.9542 - val_loss: 0.3582 - val_f1_score: 0.8421 - val_accuracy: 0.8441 - val_auc: 0.9414
Epoch 86/500
50/50 [==============================] - ETA: 0s - loss: 0.2824 - f1_score: 0.8869 - accuracy: 0.8869 - auc: 0.9591
Epoch 00086: val_accuracy did not improve from 0.87906
50/50 [==============================] - 23s 456ms/step - loss: 0.2824 - f1_score: 0.8869 - accuracy: 0.8869 - auc: 0.9591 - val_loss: 0.4126 - val_f1_score: 0.7985 - val_accuracy: 0.8048 - val_auc: 0.9544
Epoch 87/500
50/50 [==============================] - ETA: 0s - loss: 0.3013 - f1_score: 0.8687 - accuracy: 0.8687 - auc: 0.9535
Epoch 00087: val_accuracy did not improve from 0.87906
50/50 [==============================] - 23s 456ms/step - loss: 0.3013 - f1_score: 0.8687 - accuracy: 0.8687 - auc: 0.9535 - val_loss: 0.3332 - val_f1_score: 0.8613 - val_accuracy: 0.8625 - val_auc: 0.9564
Epoch 88/500
50/50 [==============================] - ETA: 0s - loss: 0.2943 - f1_score: 0.8784 - accuracy: 0.8784 - auc: 0.9565
Epoch 00088: val_accuracy improved from 0.87906 to 0.88313, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 503ms/step - loss: 0.2943 - f1_score: 0.8784 - accuracy: 0.8784 - auc: 0.9565 - val_loss: 0.2765 - val_f1_score: 0.8831 - val_accuracy: 0.8831 - val_auc: 0.9542
Epoch 89/500
50/50 [==============================] - ETA: 0s - loss: 0.2807 - f1_score: 0.8871 - accuracy: 0.8872 - auc: 0.9595
Epoch 00089: val_accuracy did not improve from 0.88313
50/50 [==============================] - 23s 469ms/step - loss: 0.2807 - f1_score: 0.8871 - accuracy: 0.8872 - auc: 0.9595 - val_loss: 0.3073 - val_f1_score: 0.8627 - val_accuracy: 0.8639 - val_auc: 0.9575
Epoch 90/500
50/50 [==============================] - ETA: 0s - loss: 0.2872 - f1_score: 0.8812 - accuracy: 0.8813 - auc: 0.9571
Epoch 00090: val_accuracy improved from 0.88313 to 0.88625, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 500ms/step - loss: 0.2872 - f1_score: 0.8812 - accuracy: 0.8813 - auc: 0.9571 - val_loss: 0.286

3 - val_f1_score: 0.8862 - val_accuracy: 0.8863 - val_auc: 0.9513
Epoch 91/500
50/50 [==============================] - ETA: 0s - loss: 0.3037 - f1_score: 0.8725 - accuracy: 0.8725 - auc: 0.9580
Epoch 00091: val_accuracy did not improve from 0.88625
50/50 [==============================] - 23s 460ms/step - loss: 0.3037 - f1_score: 0.8725 - accuracy: 0.8725 - auc: 0.9580 - val_loss: 0.499
8 - val_f1_score: 0.8727 - val_accuracy: 0.8733 - val_auc: 0.9486
Epoch 92/500
50/50 [==============================] - ETA: 0s - loss: 0.3107 - f1_score: 0.8781 - accuracy: 0.8781 - auc: 0.9520
Epoch 00092: val_accuracy did not improve from 0.88625
50/50 [==============================] - 23s 454ms/step - loss: 0.3107 - f1_score: 0.8781 - accuracy: 0.8781 - auc: 0.9520 - val_loss: 0.470
7 - val_f1_score: 0.7716 - val_accuracy: 0.7759 - val_auc: 0.8786
Epoch 93/500
50/50 [==============================] - ETA: 0s - loss: 0.2963 - f1_score: 0.8709 - accuracy: 0.8709 - auc: 0.9574
Epoch 00093: val_accuracy did not improve from 0.88625
50/50 [==============================] - 23s 454ms/step - loss: 0.2963 - f1_score: 0.8709 - accuracy: 0.8709 - auc: 0.9574 - val_loss: 0.358
5 - val_f1_score: 0.8632 - val_accuracy: 0.8641 - val_auc: 0.9526
Epoch 94/500
50/50 [==============================] - ETA: 0s - loss: 0.2814 - f1_score: 0.8790 - accuracy: 0.8791 - auc: 0.9603
Epoch 00094: val_accuracy improved from 0.88625 to 0.89344, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 498ms/step - loss: 0.2814 - f1_score: 0.8790 - accuracy: 0.8791 - auc: 0.9603 - val_loss: 0.273
8 - val_f1_score: 0.8933 - val_accuracy: 0.8934 - val_auc: 0.9595
Epoch 95/500
50/50 [==============================] - ETA: 0s - loss: 0.2916 - f1_score: 0.8850 - accuracy: 0.8850 - auc: 0.9591
Epoch 00095: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 458ms/step - loss: 0.2916 - f1_score: 0.8850 - accuracy: 0.8850 - auc: 0.9591 - val_loss: 0.595
6 - val_f1_score: 0.8506 - val_accuracy: 0.8512 - val_auc: 0.9383
Epoch 96/500
50/50 [==============================] - ETA: 0s - loss: 0.3475 - f1_score: 0.8644 - accuracy: 0.8644 - auc: 0.9520
Epoch 00096: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 456ms/step - loss: 0.3475 - f1_score: 0.8644 - accuracy: 0.8644 - auc: 0.9520 - val_loss: 0.392
9 - val_f1_score: 0.8352 - val_accuracy: 0.8377 - val_auc: 0.9515
Epoch 97/500
50/50 [==============================] - ETA: 0s - loss: 0.2555 - f1_score: 0.8903 - accuracy: 0.8903 - auc: 0.9652
Epoch 00097: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 464ms/step - loss: 0.2555 - f1_score: 0.8903 - accuracy: 0.8903 - auc: 0.9652 - val_loss: 0.283
6 - val_f1_score: 0.8927 - val_accuracy: 0.8927 - val_auc: 0.9593
Epoch 98/500
50/50 [==============================] - ETA: 0s - loss: 0.2718 - f1_score: 0.8875 - accuracy: 0.8875 - auc: 0.9625
Epoch 00098: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 456ms/step - loss: 0.2718 - f1_score: 0.8875 - accuracy: 0.8875 - auc: 0.9625 - val_loss: 0.318
2 - val_f1_score: 0.8711 - val_accuracy: 0.8719 - val_auc: 0.9596
Epoch 99/500
50/50 [==============================] - ETA: 0s - loss: 0.2672 - f1_score: 0.8930 - accuracy: 0.8931 - auc: 0.9680
Epoch 00099: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 456ms/step - loss: 0.2672 - f1_score: 0.8930 - accuracy: 0.8931 - auc: 0.9680 - val_loss: 0.472
8 - val_f1_score: 0.8379 - val_accuracy: 0.8405 - val_auc: 0.9529
Epoch 100/500
50/50 [==============================] - ETA: 0s - loss: 0.2866 - f1_score: 0.8815 - accuracy: 0.8816 - auc: 0.9578
Epoch 00100: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 455ms/step - loss: 0.2866 - f1_score: 0.8815 - accuracy: 0.8816 - auc: 0.9578 - val_loss: 0.271
7 - val_f1_score: 0.8919 - val_accuracy: 0.8920 - val_auc: 0.9589
Epoch 101/500
50/50 [==============================] - ETA: 0s - loss: 0.2635 - f1_score: 0.8944 - accuracy: 0.8944 - auc: 0.9683
Epoch 00101: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 457ms/step - loss: 0.2635 - f1_score: 0.8944 - accuracy: 0.8944 - auc: 0.9683 - val_loss: 0.342
8 - val_f1_score: 0.8638 - val_accuracy: 0.8650 - val_auc: 0.9440
Epoch 102/500
50/50 [==============================] - ETA: 0s - loss: 0.2598 - f1_score: 0.8909 - accuracy: 0.8909 - auc: 0.9692
Epoch 00102: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 456ms/step - loss: 0.2598 - f1_score: 0.8909 - accuracy: 0.8909 - auc: 0.9692 - val_loss: 0.323
0 - val_f1_score: 0.8882 - val_accuracy: 0.8884 - val_auc: 0.9598
Epoch 103/500
50/50 [==============================] - ETA: 0s - loss: 0.2592 - f1_score: 0.9000 - accuracy: 0.9000 - auc: 0.9672
Epoch 00103: val_accuracy did not improve from 0.89344
50/50 [==============================] - 23s 465ms/step - loss: 0.2592 - f1_score: 0.9000 - accuracy: 0.9000 - auc: 0.9672 - val_loss: 0.311
5 - val_f1_score: 0.8866 - val_accuracy: 0.8869 - val_auc: 0.9631
Epoch 104/500
50/50 [==============================] - ETA: 0s - loss: 0.2713 - f1_score: 0.8923 - accuracy: 0.8925 - auc: 0.9655
Epoch 00104: val_accuracy improved from 0.89344 to 0.89422, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 26s 524ms/step - loss: 0.2713 - f1_score: 0.8923 - accuracy: 0.8925 - auc: 0.9655 - val_loss: 0.282
2 - val_f1_score: 0.8942 - val_accuracy: 0.8942 - val_auc: 0.9601
Epoch 105/500
50/50 [==============================] - ETA: 0s - loss: 0.2451 - f1_score: 0.9034 - accuracy: 0.9034 - auc: 0.9738
Epoch 00105: val_accuracy improved from 0.89422 to 0.90312, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 506ms/step - loss: 0.2451 - f1_score: 0.9034 - accuracy: 0.9034 - auc: 0.9738 - val_loss: 0.253
8 - val_f1_score: 0.9031 - val_accuracy: 0.9031 - val_auc: 0.9637
Epoch 106/500
50/50 [==============================] - ETA: 0s - loss: 0.2581 - f1_score: 0.9003 - accuracy: 0.9003 - auc: 0.9711
Epoch 00106: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 459ms/step - loss: 0.2581 - f1_score: 0.9003 - accuracy: 0.9003 - auc: 0.9711 - val_loss: 0.313
5 - val_f1_score: 0.8723 - val_accuracy: 0.8733 - val_auc: 0.9604
Epoch 107/500
50/50 [==============================] - ETA: 0s - loss: 0.2438 - f1_score: 0.9022 - accuracy: 0.9022 - auc: 0.9726

Epoch 00107: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2438 - f1_score: 0.9022 - accuracy: 0.9022 - auc: 0.9726 - val_loss: 0.4264 - val_f1_score: 0.8482 - val_accuracy: 0.8505 - val_auc: 0.9626
Epoch 108/500
50/50 [==============================] - ETA: 0s - loss: 0.2670 - f1_score: 0.8912 - accuracy: 0.8913 - auc: 0.9669
Epoch 00108: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2670 - f1_score: 0.8912 - accuracy: 0.8913 - auc: 0.9669 - val_loss: 0.3187 - val_f1_score: 0.8783 - val_accuracy: 0.8791 - val_auc: 0.9624
Epoch 109/500
50/50 [==============================] - ETA: 0s - loss: 0.2429 - f1_score: 0.9053 - accuracy: 0.9053 - auc: 0.9739
Epoch 00109: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2429 - f1_score: 0.9053 - accuracy: 0.9053 - auc: 0.9739 - val_loss: 0.3985 - val_f1_score: 0.8340 - val_accuracy: 0.8372 - val_auc: 0.9595
Epoch 110/500
50/50 [==============================] - ETA: 0s - loss: 0.2406 - f1_score: 0.9066 - accuracy: 0.9066 - auc: 0.9726
Epoch 00110: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2406 - f1_score: 0.9066 - accuracy: 0.9066 - auc: 0.9726 - val_loss: 0.2896 - val_f1_score: 0.8910 - val_accuracy: 0.8911 - val_auc: 0.9609
Epoch 111/500
50/50 [==============================] - ETA: 0s - loss: 0.2434 - f1_score: 0.8994 - accuracy: 0.8994 - auc: 0.9710
Epoch 00111: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2434 - f1_score: 0.8994 - accuracy: 0.8994 - auc: 0.9710 - val_loss: 0.3098 - val_f1_score: 0.8655 - val_accuracy: 0.8669 - val_auc: 0.9616
Epoch 112/500
50/50 [==============================] - ETA: 0s - loss: 0.2393 - f1_score: 0.9025 - accuracy: 0.9025 - auc: 0.9706
Epoch 00112: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 454ms/step - loss: 0.2393 - f1_score: 0.9025 - accuracy: 0.9025 - auc: 0.9706 - val_loss: 0.2661 - val_f1_score: 0.8966 - val_accuracy: 0.8967 - val_auc: 0.9663
Epoch 113/500
50/50 [==============================] - ETA: 0s - loss: 0.2007 - f1_score: 0.9165 - accuracy: 0.9166 - auc: 0.9814
Epoch 00113: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2007 - f1_score: 0.9165 - accuracy: 0.9166 - auc: 0.9814 - val_loss: 0.3603 - val_f1_score: 0.8468 - val_accuracy: 0.8487 - val_auc: 0.9378
Epoch 114/500
50/50 [==============================] - ETA: 0s - loss: 0.2192 - f1_score: 0.9140 - accuracy: 0.9141 - auc: 0.9781
Epoch 00114: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 459ms/step - loss: 0.2192 - f1_score: 0.9140 - accuracy: 0.9141 - auc: 0.9781 - val_loss: 0.3643 - val_f1_score: 0.8699 - val_accuracy: 0.8709 - val_auc: 0.9605
Epoch 115/500
50/50 [==============================] - ETA: 0s - loss: 0.2211 - f1_score: 0.9128 - accuracy: 0.9128 - auc: 0.9770
Epoch 00115: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2211 - f1_score: 0.9128 - accuracy: 0.9128 - auc: 0.9770 - val_loss: 0.3433 - val_f1_score: 0.8862 - val_accuracy: 0.8867 - val_auc: 0.9597
Epoch 116/500
50/50 [==============================] - ETA: 0s - loss: 0.2268 - f1_score: 0.9097 - accuracy: 0.9097 - auc: 0.9766
Epoch 00116: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2268 - f1_score: 0.9097 - accuracy: 0.9097 - auc: 0.9766 - val_loss: 1.2091 - val_f1_score: 0.5529 - val_accuracy: 0.6178 - val_auc: 0.8959
Epoch 117/500
50/50 [==============================] - ETA: 0s - loss: 0.2131 - f1_score: 0.9147 - accuracy: 0.9147 - auc: 0.9805
Epoch 00117: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2131 - f1_score: 0.9147 - accuracy: 0.9147 - auc: 0.9805 - val_loss: 0.2511 - val_f1_score: 0.8967 - val_accuracy: 0.8970 - val_auc: 0.9695
Epoch 118/500
50/50 [==============================] - ETA: 0s - loss: 0.2281 - f1_score: 0.9097 - accuracy: 0.9097 - auc: 0.9764
Epoch 00118: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2281 - f1_score: 0.9097 - accuracy: 0.9097 - auc: 0.9764 - val_loss: 0.3039 - val_f1_score: 0.8991 - val_accuracy: 0.8994 - val_auc: 0.9687
Epoch 119/500
50/50 [==============================] - ETA: 0s - loss: 0.2248 - f1_score: 0.9125 - accuracy: 0.9125 - auc: 0.9766
Epoch 00119: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2248 - f1_score: 0.9125 - accuracy: 0.9125 - auc: 0.9766 - val_loss: 0.2807 - val_f1_score: 0.8978 - val_accuracy: 0.8980 - val_auc: 0.9682
Epoch 120/500
50/50 [==============================] - ETA: 0s - loss: 0.2137 - f1_score: 0.9203 - accuracy: 0.9203 - auc: 0.9803
Epoch 00120: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2137 - f1_score: 0.9203 - accuracy: 0.9203 - auc: 0.9803 - val_loss: 0.3342 - val_f1_score: 0.8902 - val_accuracy: 0.8905 - val_auc: 0.9637
Epoch 121/500
50/50 [==============================] - ETA: 0s - loss: 0.2004 - f1_score: 0.9165 - accuracy: 0.9166 - auc: 0.9808
Epoch 00121: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2004 - f1_score: 0.9165 - accuracy: 0.9166 - auc: 0.9808 - val_loss: 0.8744 - val_f1_score: 0.6957 - val_accuracy: 0.7191 - val_auc: 0.9498
Epoch 122/500
50/50 [==============================] - ETA: 0s - loss: 0.2413 - f1_score: 0.9053 - accuracy: 0.9053 - auc: 0.9744
Epoch 00122: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2413 - f1_score: 0.9053 - accuracy: 0.9053 - auc: 0.9744 - val_loss: 7.6750 - val_f1_score: 0.3331 - val_accuracy: 0.4995 - val_auc: 0.6930
Epoch 123/500
50/50 [==============================] - ETA: 0s - loss: 0.2230 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9767
Epoch 00123: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2230 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9767 - val_loss: 0.645

2 - val_f1_score: 0.8378 - val_accuracy: 0.8411 - val_auc: 0.9673
Epoch 124/500
50/50 [==============================] - ETA: 0s - loss: 0.2080 - f1_score: 0.9231 - accuracy: 0.9231 - auc: 0.9791
Epoch 00124: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.2080 - f1_score: 0.9231 - accuracy: 0.9231 - auc: 0.9791 - val_loss: 0.270
4 - val_f1_score: 0.8879 - val_accuracy: 0.8884 - val_auc: 0.9616
Epoch 125/500
50/50 [==============================] - ETA: 0s - loss: 0.1901 - f1_score: 0.9231 - accuracy: 0.9231 - auc: 0.9833
Epoch 00125: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 455ms/step - loss: 0.1901 - f1_score: 0.9231 - accuracy: 0.9231 - auc: 0.9833 - val_loss: 0.285
0 - val_f1_score: 0.8911 - val_accuracy: 0.8917 - val_auc: 0.9688
Epoch 126/500
50/50 [==============================] - ETA: 0s - loss: 0.2031 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9831
Epoch 00126: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2031 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9831 - val_loss: 0.244
7 - val_f1_score: 0.9031 - val_accuracy: 0.9031 - val_auc: 0.9644
Epoch 127/500
50/50 [==============================] - ETA: 0s - loss: 0.1929 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9829
Epoch 00127: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 457ms/step - loss: 0.1929 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9829 - val_loss: 0.428
2 - val_f1_score: 0.8399 - val_accuracy: 0.8431 - val_auc: 0.9632
Epoch 128/500
50/50 [==============================] - ETA: 0s - loss: 0.2274 - f1_score: 0.9081 - accuracy: 0.9081 - auc: 0.9764
Epoch 00128: val_accuracy did not improve from 0.90312
50/50 [==============================] - 23s 456ms/step - loss: 0.2274 - f1_score: 0.9081 - accuracy: 0.9081 - auc: 0.9764 - val_loss: 0.334
1 - val_f1_score: 0.8626 - val_accuracy: 0.8641 - val_auc: 0.9496
Epoch 129/500
50/50 [==============================] - ETA: 0s - loss: 0.1606 - f1_score: 0.9378 - accuracy: 0.9378 - auc: 0.9885
Epoch 00129: val_accuracy improved from 0.90312 to 0.90859, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 497ms/step - loss: 0.1606 - f1_score: 0.9378 - accuracy: 0.9378 - auc: 0.9885 - val_loss: 0.258
3 - val_f1_score: 0.9085 - val_accuracy: 0.9086 - val_auc: 0.9700
Epoch 130/500
50/50 [==============================] - ETA: 0s - loss: 0.1860 - f1_score: 0.9262 - accuracy: 0.9262 - auc: 0.9852
Epoch 00130: val_accuracy improved from 0.90859 to 0.91281, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 508ms/step - loss: 0.1860 - f1_score: 0.9262 - accuracy: 0.9262 - auc: 0.9852 - val_loss: 0.236
0 - val_f1_score: 0.9127 - val_accuracy: 0.9128 - val_auc: 0.9727
Epoch 131/500
50/50 [==============================] - ETA: 0s - loss: 0.2116 - f1_score: 0.9181 - accuracy: 0.9181 - auc: 0.9810
Epoch 00131: val_accuracy did not improve from 0.91281
50/50 [==============================] - 23s 460ms/step - loss: 0.2116 - f1_score: 0.9181 - accuracy: 0.9181 - auc: 0.9810 - val_loss: 3.635
6 - val_f1_score: 0.3354 - val_accuracy: 0.5003 - val_auc: 0.3715
Epoch 132/500
50/50 [==============================] - ETA: 0s - loss: 0.1980 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9819
Epoch 00132: val_accuracy did not improve from 0.91281
50/50 [==============================] - 23s 453ms/step - loss: 0.1980 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9819 - val_loss: 1.032
1 - val_f1_score: 0.5942 - val_accuracy: 0.6373 - val_auc: 0.8827
Epoch 133/500
50/50 [==============================] - ETA: 0s - loss: 0.1972 - f1_score: 0.9290 - accuracy: 0.9291 - auc: 0.9833
Epoch 00133: val_accuracy did not improve from 0.91281
50/50 [==============================] - 23s 455ms/step - loss: 0.1972 - f1_score: 0.9290 - accuracy: 0.9291 - auc: 0.9833 - val_loss: 0.278
8 - val_f1_score: 0.8922 - val_accuracy: 0.8927 - val_auc: 0.9641
Epoch 134/500
50/50 [==============================] - ETA: 0s - loss: 0.1800 - f1_score: 0.9312 - accuracy: 0.9312 - auc: 0.9861
Epoch 00134: val_accuracy did not improve from 0.91281
50/50 [==============================] - 23s 454ms/step - loss: 0.1800 - f1_score: 0.9312 - accuracy: 0.9312 - auc: 0.9861 - val_loss: 0.278
7 - val_f1_score: 0.9047 - val_accuracy: 0.9050 - val_auc: 0.9707
Epoch 135/500
50/50 [==============================] - ETA: 0s - loss: 0.1805 - f1_score: 0.9316 - accuracy: 0.9316 - auc: 0.9870
Epoch 00135: val_accuracy improved from 0.91281 to 0.91375, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 505ms/step - loss: 0.1805 - f1_score: 0.9316 - accuracy: 0.9316 - auc: 0.9870 - val_loss: 0.253
2 - val_f1_score: 0.9137 - val_accuracy: 0.9137 - val_auc: 0.9712
Epoch 136/500
50/50 [==============================] - ETA: 0s - loss: 0.1890 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9835
Epoch 00136: val_accuracy did not improve from 0.91375
50/50 [==============================] - 23s 457ms/step - loss: 0.1890 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9835 - val_loss: 0.816
3 - val_f1_score: 0.7795 - val_accuracy: 0.7887 - val_auc: 0.9612
Epoch 137/500
50/50 [==============================] - ETA: 0s - loss: 0.1515 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9904
Epoch 00137: val_accuracy did not improve from 0.91375
50/50 [==============================] - 23s 452ms/step - loss: 0.1515 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9904 - val_loss: 0.357
6 - val_f1_score: 0.8745 - val_accuracy: 0.8758 - val_auc: 0.9703
Epoch 138/500
50/50 [==============================] - ETA: 0s - loss: 0.1592 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9894
Epoch 00138: val_accuracy did not improve from 0.91375
50/50 [==============================] - 23s 453ms/step - loss: 0.1592 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9894 - val_loss: 0.314
5 - val_f1_score: 0.8847 - val_accuracy: 0.8855 - val_auc: 0.9695
Epoch 139/500
50/50 [==============================] - ETA: 0s - loss: 0.1625 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9881
Epoch 00139: val_accuracy did not improve from 0.91375
50/50 [==============================] - 23s 454ms/step - loss: 0.1625 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9881 - val_loss: 0.989
0 - val_f1_score: 0.7018 - val_accuracy: 0.7239 - val_auc: 0.9609
Epoch 140/500
50/50 [==============================] - ETA: 0s - loss: 0.1650 - f1_score: 0.9341 - accuracy: 0.9341 - auc: 0.9861

Epoch 00140: val_accuracy did not improve from 0.91375
50/50 [==============================] - 23s 454ms/step - loss: 0.1650 - f1_score: 0.9341 - accuracy: 0.9341 - auc: 0.9861 - val_loss: 0.338
9 - val_f1_score: 0.8617 - val_accuracy: 0.8634 - val_auc: 0.9577
Epoch 141/500
50/50 [==============================] - ETA: 0s - loss: 0.1682 - f1_score: 0.9369 - accuracy: 0.9369 - auc: 0.9873
Epoch 00141: val_accuracy improved from 0.91375 to 0.91812, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 501ms/step - loss: 0.1682 - f1_score: 0.9369 - accuracy: 0.9369 - auc: 0.9873 - val_loss: 0.213
2 - val_f1_score: 0.9181 - val_accuracy: 0.9181 - val_auc: 0.9745
Epoch 142/500
50/50 [==============================] - ETA: 0s - loss: 0.1495 - f1_score: 0.9428 - accuracy: 0.9428 - auc: 0.9894
Epoch 00142: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 455ms/step - loss: 0.1495 - f1_score: 0.9428 - accuracy: 0.9428 - auc: 0.9894 - val_loss: 0.269
5 - val_f1_score: 0.9055 - val_accuracy: 0.9058 - val_auc: 0.9730
Epoch 143/500
50/50 [==============================] - ETA: 0s - loss: 0.1735 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9880
Epoch 00143: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 454ms/step - loss: 0.1735 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9880 - val_loss: 0.465
5 - val_f1_score: 0.8395 - val_accuracy: 0.8423 - val_auc: 0.9660
Epoch 144/500
50/50 [==============================] - ETA: 0s - loss: 0.1670 - f1_score: 0.9319 - accuracy: 0.9319 - auc: 0.9863
Epoch 00144: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 454ms/step - loss: 0.1670 - f1_score: 0.9319 - accuracy: 0.9319 - auc: 0.9863 - val_loss: 0.245
7 - val_f1_score: 0.9145 - val_accuracy: 0.9145 - val_auc: 0.9703
Epoch 145/500
50/50 [==============================] - ETA: 0s - loss: 0.1226 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9949
Epoch 00145: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 454ms/step - loss: 0.1226 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9949 - val_loss: 0.245
1 - val_f1_score: 0.9178 - val_accuracy: 0.9178 - val_auc: 0.9735
Epoch 146/500
50/50 [==============================] - ETA: 0s - loss: 0.1441 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9904
Epoch 00146: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 453ms/step - loss: 0.1441 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9904 - val_loss: 0.323
7 - val_f1_score: 0.8994 - val_accuracy: 0.8997 - val_auc: 0.9711
Epoch 147/500
50/50 [==============================] - ETA: 0s - loss: 0.1514 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9909
Epoch 00147: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 452ms/step - loss: 0.1514 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9909 - val_loss: 7.377
0 - val_f1_score: 0.3392 - val_accuracy: 0.5027 - val_auc: 0.2203
Epoch 148/500
50/50 [==============================] - ETA: 0s - loss: 0.1505 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9888
Epoch 00148: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 458ms/step - loss: 0.1505 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9888 - val_loss: 0.301
8 - val_f1_score: 0.9089 - val_accuracy: 0.9089 - val_auc: 0.9682
Epoch 149/500
50/50 [==============================] - ETA: 0s - loss: 0.1527 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9910
Epoch 00149: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 456ms/step - loss: 0.1527 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9910 - val_loss: 0.322
9 - val_f1_score: 0.9023 - val_accuracy: 0.9025 - val_auc: 0.9677
Epoch 150/500
50/50 [==============================] - ETA: 0s - loss: 0.1462 - f1_score: 0.9403 - accuracy: 0.9403 - auc: 0.9909
Epoch 00150: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 454ms/step - loss: 0.1462 - f1_score: 0.9403 - accuracy: 0.9403 - auc: 0.9909 - val_loss: 0.373
9 - val_f1_score: 0.8915 - val_accuracy: 0.8922 - val_auc: 0.9759
Epoch 151/500
50/50 [==============================] - ETA: 0s - loss: 0.1582 - f1_score: 0.9400 - accuracy: 0.9400 - auc: 0.9914
Epoch 00151: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 452ms/step - loss: 0.1582 - f1_score: 0.9400 - accuracy: 0.9400 - auc: 0.9914 - val_loss: 0.259
2 - val_f1_score: 0.9148 - val_accuracy: 0.9148 - val_auc: 0.9714
Epoch 152/500
50/50 [==============================] - ETA: 0s - loss: 0.1499 - f1_score: 0.9447 - accuracy: 0.9447 - auc: 0.9920
Epoch 00152: val_accuracy did not improve from 0.91812
50/50 [==============================] - 23s 452ms/step - loss: 0.1499 - f1_score: 0.9447 - accuracy: 0.9447 - auc: 0.9920 - val_loss: 0.275
8 - val_f1_score: 0.9142 - val_accuracy: 0.9142 - val_auc: 0.9621
Epoch 153/500
50/50 [==============================] - ETA: 0s - loss: 0.1107 - f1_score: 0.9565 - accuracy: 0.9566 - auc: 0.9953
Epoch 00153: val_accuracy improved from 0.91812 to 0.91938, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 500ms/step - loss: 0.1107 - f1_score: 0.9565 - accuracy: 0.9566 - auc: 0.9953 - val_loss: 0.229
6 - val_f1_score: 0.9194 - val_accuracy: 0.9194 - val_auc: 0.9730
Epoch 154/500
50/50 [==============================] - ETA: 0s - loss: 0.0998 - f1_score: 0.9612 - accuracy: 0.9613 - auc: 0.9955
Epoch 00154: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 461ms/step - loss: 0.0998 - f1_score: 0.9612 - accuracy: 0.9613 - auc: 0.9955 - val_loss: 0.404
8 - val_f1_score: 0.8882 - val_accuracy: 0.8889 - val_auc: 0.9699
Epoch 155/500
50/50 [==============================] - ETA: 0s - loss: 0.1772 - f1_score: 0.9358 - accuracy: 0.9359 - auc: 0.9909
Epoch 00155: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 452ms/step - loss: 0.1772 - f1_score: 0.9358 - accuracy: 0.9359 - auc: 0.9909 - val_loss: 0.488
6 - val_f1_score: 0.8283 - val_accuracy: 0.8325 - val_auc: 0.9677
Epoch 156/500
50/50 [==============================] - ETA: 0s - loss: 0.1447 - f1_score: 0.9478 - accuracy: 0.9478 - auc: 0.9912
Epoch 00156: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 452ms/step - loss: 0.1447 - f1_score: 0.9478 - accuracy: 0.9478 - auc: 0.9912 - val_loss: 0.313

1 - val_f1_score: 0.8952 - val_accuracy: 0.8956 - val_auc: 0.9718
Epoch 157/500
50/50 [==============================] - ETA: 0s - loss: 0.1026 - f1_score: 0.9609 - accuracy: 0.9609 - auc: 0.9950
Epoch 00157: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 452ms/step - loss: 0.1026 - f1_score: 0.9609 - accuracy: 0.9609 - auc: 0.9950 - val_loss: 0.301
8 - val_f1_score: 0.8883 - val_accuracy: 0.8889 - val_auc: 0.9692
Epoch 158/500
50/50 [==============================] - ETA: 0s - loss: 0.1235 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9938
Epoch 00158: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 453ms/step - loss: 0.1235 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9938 - val_loss: 0.440
1 - val_f1_score: 0.8579 - val_accuracy: 0.8600 - val_auc: 0.9698
Epoch 159/500
50/50 [==============================] - ETA: 0s - loss: 0.1594 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9887
Epoch 00159: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 453ms/step - loss: 0.1594 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9887 - val_loss: 0.386
5 - val_f1_score: 0.8900 - val_accuracy: 0.8908 - val_auc: 0.9724
Epoch 160/500
50/50 [==============================] - ETA: 0s - loss: 0.1482 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9917
Epoch 00160: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 454ms/step - loss: 0.1482 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9917 - val_loss: 0.407
4 - val_f1_score: 0.8727 - val_accuracy: 0.8741 - val_auc: 0.9717
Epoch 161/500
50/50 [==============================] - ETA: 0s - loss: 0.0843 - f1_score: 0.9728 - accuracy: 0.9728 - auc: 0.9970
Epoch 00161: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 453ms/step - loss: 0.0843 - f1_score: 0.9728 - accuracy: 0.9728 - auc: 0.9970 - val_loss: 0.419
3 - val_f1_score: 0.8586 - val_accuracy: 0.8608 - val_auc: 0.9737
Epoch 162/500
50/50 [==============================] - ETA: 0s - loss: 0.1490 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9945
Epoch 00162: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 454ms/step - loss: 0.1490 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9945 - val_loss: 0.806
2 - val_f1_score: 0.7336 - val_accuracy: 0.7491 - val_auc: 0.9567
Epoch 163/500
50/50 [==============================] - ETA: 0s - loss: 0.1269 - f1_score: 0.9503 - accuracy: 0.9503 - auc: 0.9943
Epoch 00163: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 454ms/step - loss: 0.1269 - f1_score: 0.9503 - accuracy: 0.9503 - auc: 0.9943 - val_loss: 0.381
0 - val_f1_score: 0.9076 - val_accuracy: 0.9080 - val_auc: 0.9753
Epoch 164/500
50/50 [==============================] - ETA: 0s - loss: 0.1382 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9935
Epoch 00164: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 455ms/step - loss: 0.1382 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9935 - val_loss: 0.330
9 - val_f1_score: 0.9088 - val_accuracy: 0.9091 - val_auc: 0.9753
Epoch 165/500
50/50 [==============================] - ETA: 0s - loss: 0.1306 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9936
Epoch 00165: val_accuracy did not improve from 0.91938
50/50 [==============================] - 23s 453ms/step - loss: 0.1306 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9936 - val_loss: 0.248
6 - val_f1_score: 0.9162 - val_accuracy: 0.9162 - val_auc: 0.9735
Epoch 166/500
50/50 [==============================] - ETA: 0s - loss: 0.0967 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9964
Epoch 00166: val_accuracy improved from 0.91938 to 0.92563, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 26s 529ms/step - loss: 0.0967 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9964 - val_loss: 0.236
4 - val_f1_score: 0.9256 - val_accuracy: 0.9256 - val_auc: 0.9759
Epoch 167/500
50/50 [==============================] - ETA: 0s - loss: 0.1290 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9942
Epoch 00167: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 460ms/step - loss: 0.1290 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9942 - val_loss: 0.577
7 - val_f1_score: 0.8249 - val_accuracy: 0.8291 - val_auc: 0.9697
Epoch 168/500
50/50 [==============================] - ETA: 0s - loss: 0.0997 - f1_score: 0.9637 - accuracy: 0.9638 - auc: 0.9962
Epoch 00168: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0997 - f1_score: 0.9637 - accuracy: 0.9638 - auc: 0.9962 - val_loss: 0.258
0 - val_f1_score: 0.9179 - val_accuracy: 0.9180 - val_auc: 0.9757
Epoch 169/500
50/50 [==============================] - ETA: 0s - loss: 0.0670 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9981
Epoch 00169: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 455ms/step - loss: 0.0670 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9981 - val_loss: 0.360
8 - val_f1_score: 0.9080 - val_accuracy: 0.9083 - val_auc: 0.9769
Epoch 170/500
50/50 [==============================] - ETA: 0s - loss: 0.0825 - f1_score: 0.9715 - accuracy: 0.9716 - auc: 0.9972
Epoch 00170: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0825 - f1_score: 0.9715 - accuracy: 0.9716 - auc: 0.9972 - val_loss: 0.304
5 - val_f1_score: 0.9187 - val_accuracy: 0.9187 - val_auc: 0.9771
Epoch 171/500
50/50 [==============================] - ETA: 0s - loss: 0.0996 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9957
Epoch 00171: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 453ms/step - loss: 0.0996 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9957 - val_loss: 0.310
4 - val_f1_score: 0.8898 - val_accuracy: 0.8903 - val_auc: 0.9696
Epoch 172/500
50/50 [==============================] - ETA: 0s - loss: 0.0821 - f1_score: 0.9678 - accuracy: 0.9678 - auc: 0.9976
Epoch 00172: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0821 - f1_score: 0.9678 - accuracy: 0.9678 - auc: 0.9976 - val_loss: 0.297
6 - val_f1_score: 0.8921 - val_accuracy: 0.8922 - val_auc: 0.9494
Epoch 173/500
50/50 [==============================] - ETA: 0s - loss: 0.1116 - f1_score: 0.9565 - accuracy: 0.9566 - auc: 0.9955

Epoch 00173: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.1116 - f1_score: 0.9565 - accuracy: 0.9566 - auc: 0.9955 - val_loss: 0.485
3 - val_f1_score: 0.8580 - val_accuracy: 0.8602 - val_auc: 0.9704
Epoch 174/500
50/50 [==============================] - ETA: 0s - loss: 0.0893 - f1_score: 0.9666 - accuracy: 0.9666 - auc: 0.9972
Epoch 00174: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0893 - f1_score: 0.9666 - accuracy: 0.9666 - auc: 0.9972 - val_loss: 0.286
2 - val_f1_score: 0.9019 - val_accuracy: 0.9019 - val_auc: 0.9679
Epoch 175/500
50/50 [==============================] - ETA: 0s - loss: 0.1108 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9966
Epoch 00175: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 456ms/step - loss: 0.1108 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9966 - val_loss: 0.243
5 - val_f1_score: 0.9206 - val_accuracy: 0.9206 - val_auc: 0.9746
Epoch 176/500
50/50 [==============================] - ETA: 0s - loss: 0.0960 - f1_score: 0.9637 - accuracy: 0.9638 - auc: 0.9962
Epoch 00176: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0960 - f1_score: 0.9637 - accuracy: 0.9638 - auc: 0.9962 - val_loss: 0.420
4 - val_f1_score: 0.8837 - val_accuracy: 0.8847 - val_auc: 0.9751
Epoch 177/500
50/50 [==============================] - ETA: 0s - loss: 0.0760 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9988
Epoch 00177: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 453ms/step - loss: 0.0760 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9988 - val_loss: 0.541
5 - val_f1_score: 0.8655 - val_accuracy: 0.8673 - val_auc: 0.9759
Epoch 178/500
50/50 [==============================] - ETA: 0s - loss: 0.0583 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9988
Epoch 00178: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 455ms/step - loss: 0.0583 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9988 - val_loss: 0.319
9 - val_f1_score: 0.9250 - val_accuracy: 0.9250 - val_auc: 0.9770
Epoch 179/500
50/50 [==============================] - ETA: 0s - loss: 0.0790 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9981
Epoch 00179: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0790 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9981 - val_loss: 0.272
6 - val_f1_score: 0.9213 - val_accuracy: 0.9214 - val_auc: 0.9772
Epoch 180/500
50/50 [==============================] - ETA: 0s - loss: 0.0748 - f1_score: 0.9719 - accuracy: 0.9719 - auc: 0.9983
Epoch 00180: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 453ms/step - loss: 0.0748 - f1_score: 0.9719 - accuracy: 0.9719 - auc: 0.9983 - val_loss: 0.298
9 - val_f1_score: 0.9214 - val_accuracy: 0.9214 - val_auc: 0.9760
Epoch 181/500
50/50 [==============================] - ETA: 0s - loss: 0.0766 - f1_score: 0.9716 - accuracy: 0.9716 - auc: 0.9979
Epoch 00181: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 457ms/step - loss: 0.0766 - f1_score: 0.9716 - accuracy: 0.9716 - auc: 0.9979 - val_loss: 0.301
6 - val_f1_score: 0.9155 - val_accuracy: 0.9156 - val_auc: 0.9779
Epoch 182/500
50/50 [==============================] - ETA: 0s - loss: 0.1001 - f1_score: 0.9600 - accuracy: 0.9600 - auc: 0.9972
Epoch 00182: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 455ms/step - loss: 0.1001 - f1_score: 0.9600 - accuracy: 0.9600 - auc: 0.9972 - val_loss: 0.241
5 - val_f1_score: 0.9255 - val_accuracy: 0.9255 - val_auc: 0.9759
Epoch 183/500
50/50 [==============================] - ETA: 0s - loss: 0.0763 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9968
Epoch 00183: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 453ms/step - loss: 0.0763 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9968 - val_loss: 0.347
3 - val_f1_score: 0.8854 - val_accuracy: 0.8859 - val_auc: 0.9636
Epoch 184/500
50/50 [==============================] - ETA: 0s - loss: 0.0557 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9991
Epoch 00184: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0557 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9991 - val_loss: 0.296
6 - val_f1_score: 0.9144 - val_accuracy: 0.9145 - val_auc: 0.9734
Epoch 185/500
50/50 [==============================] - ETA: 0s - loss: 0.0579 - f1_score: 0.9772 - accuracy: 0.9772 - auc: 0.9984
Epoch 00185: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 456ms/step - loss: 0.0579 - f1_score: 0.9772 - accuracy: 0.9772 - auc: 0.9984 - val_loss: 0.326
2 - val_f1_score: 0.9164 - val_accuracy: 0.9164 - val_auc: 0.9738
Epoch 186/500
50/50 [==============================] - ETA: 0s - loss: 0.1070 - f1_score: 0.9624 - accuracy: 0.9625 - auc: 0.9971
Epoch 00186: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.1070 - f1_score: 0.9624 - accuracy: 0.9625 - auc: 0.9971 - val_loss: 0.377
9 - val_f1_score: 0.8613 - val_accuracy: 0.8633 - val_auc: 0.9707
Epoch 187/500
50/50 [==============================] - ETA: 0s - loss: 0.0911 - f1_score: 0.9709 - accuracy: 0.9709 - auc: 0.9978
Epoch 00187: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 455ms/step - loss: 0.0911 - f1_score: 0.9709 - accuracy: 0.9709 - auc: 0.9978 - val_loss: 0.371
9 - val_f1_score: 0.9066 - val_accuracy: 0.9069 - val_auc: 0.9758
Epoch 188/500
50/50 [==============================] - ETA: 0s - loss: 0.0536 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9986
Epoch 00188: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 457ms/step - loss: 0.0536 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9986 - val_loss: 0.341
8 - val_f1_score: 0.9221 - val_accuracy: 0.9222 - val_auc: 0.9770
Epoch 189/500
50/50 [==============================] - ETA: 0s - loss: 0.0640 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9987
Epoch 00189: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 456ms/step - loss: 0.0640 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9987 - val_loss: 0.265

6 - val_f1_score: 0.9201 - val_accuracy: 0.9202 - val_auc: 0.9730
Epoch 190/500
50/50 [==============================] - ETA: 0s - loss: 0.0765 - f1_score: 0.9709 - accuracy: 0.9709 - auc: 0.9981
Epoch 00190: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 457ms/step - loss: 0.0765 - f1_score: 0.9709 - accuracy: 0.9709 - auc: 0.9981 - val_loss: 0.366
6 - val_f1_score: 0.9124 - val_accuracy: 0.9125 - val_auc: 0.9750
Epoch 191/500
50/50 [==============================] - ETA: 0s - loss: 0.0790 - f1_score: 0.9741 - accuracy: 0.9741 - auc: 0.9974
Epoch 00191: val_accuracy did not improve from 0.92563
50/50 [==============================] - 23s 454ms/step - loss: 0.0790 - f1_score: 0.9741 - accuracy: 0.9741 - auc: 0.9974 - val_loss: 0.295
0 - val_f1_score: 0.9102 - val_accuracy: 0.9103 - val_auc: 0.9723
Epoch 192/500
50/50 [==============================] - ETA: 0s - loss: 0.0644 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9986
Epoch 00192: val_accuracy improved from 0.92563 to 0.92672, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 504ms/step - loss: 0.0644 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9986 - val_loss: 0.281
5 - val_f1_score: 0.9267 - val_accuracy: 0.9267 - val_auc: 0.9788
Epoch 193/500
50/50 [==============================] - ETA: 0s - loss: 0.0369 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9993
Epoch 00193: val_accuracy did not improve from 0.92672
50/50 [==============================] - 23s 457ms/step - loss: 0.0369 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9993 - val_loss: 0.347
3 - val_f1_score: 0.9196 - val_accuracy: 0.9197 - val_auc: 0.9769
Epoch 194/500
50/50 [==============================] - ETA: 0s - loss: 0.0501 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9990
Epoch 00194: val_accuracy did not improve from 0.92672
50/50 [==============================] - 23s 455ms/step - loss: 0.0501 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9990 - val_loss: 0.290
9 - val_f1_score: 0.9247 - val_accuracy: 0.9247 - val_auc: 0.9764
Epoch 195/500
50/50 [==============================] - ETA: 0s - loss: 0.0449 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9993
Epoch 00195: val_accuracy improved from 0.92672 to 0.92937, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 495ms/step - loss: 0.0449 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9993 - val_loss: 0.274
8 - val_f1_score: 0.9294 - val_accuracy: 0.9294 - val_auc: 0.9776
Epoch 196/500
50/50 [==============================] - ETA: 0s - loss: 0.0649 - f1_score: 0.9790 - accuracy: 0.9791 - auc: 0.9981
Epoch 00196: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 462ms/step - loss: 0.0649 - f1_score: 0.9790 - accuracy: 0.9791 - auc: 0.9981 - val_loss: 0.238
1 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9751
Epoch 197/500
50/50 [==============================] - ETA: 0s - loss: 0.0605 - f1_score: 0.9775 - accuracy: 0.9775 - auc: 0.9983
Epoch 00197: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0605 - f1_score: 0.9775 - accuracy: 0.9775 - auc: 0.9983 - val_loss: 0.320
7 - val_f1_score: 0.9211 - val_accuracy: 0.9212 - val_auc: 0.9792
Epoch 198/500
50/50 [==============================] - ETA: 0s - loss: 0.0655 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9991
Epoch 00198: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 453ms/step - loss: 0.0655 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9991 - val_loss: 0.585
2 - val_f1_score: 0.8954 - val_accuracy: 0.8959 - val_auc: 0.9747
Epoch 199/500
50/50 [==============================] - ETA: 0s - loss: 0.0757 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9980
Epoch 00199: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0757 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9980 - val_loss: 0.275
9 - val_f1_score: 0.9209 - val_accuracy: 0.9209 - val_auc: 0.9727
Epoch 200/500
50/50 [==============================] - ETA: 0s - loss: 0.0747 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9982
Epoch 00200: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0747 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9982 - val_loss: 0.423
1 - val_f1_score: 0.9056 - val_accuracy: 0.9059 - val_auc: 0.9730
Epoch 201/500
50/50 [==============================] - ETA: 0s - loss: 0.0459 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9993
Epoch 00201: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0459 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9993 - val_loss: 0.252
9 - val_f1_score: 0.9255 - val_accuracy: 0.9255 - val_auc: 0.9762
Epoch 202/500
50/50 [==============================] - ETA: 0s - loss: 0.0468 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9993
Epoch 00202: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 453ms/step - loss: 0.0468 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9993 - val_loss: 0.288
2 - val_f1_score: 0.9216 - val_accuracy: 0.9217 - val_auc: 0.9767
Epoch 203/500
50/50 [==============================] - ETA: 0s - loss: 0.0599 - f1_score: 0.9775 - accuracy: 0.9775 - auc: 0.9990
Epoch 00203: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 453ms/step - loss: 0.0599 - f1_score: 0.9775 - accuracy: 0.9775 - auc: 0.9990 - val_loss: 0.438
5 - val_f1_score: 0.9120 - val_accuracy: 0.9122 - val_auc: 0.9759
Epoch 204/500
50/50 [==============================] - ETA: 0s - loss: 0.0689 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9985
Epoch 00204: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0689 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9985 - val_loss: 0.379
9 - val_f1_score: 0.9184 - val_accuracy: 0.9184 - val_auc: 0.9742
Epoch 205/500
50/50 [==============================] - ETA: 0s - loss: 0.0455 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9995
Epoch 00205: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0455 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9995 - val_loss: 0.312
7 - val_f1_score: 0.9283 - val_accuracy: 0.9283 - val_auc: 0.9772
Epoch 206/500
50/50 [==============================] - ETA: 0s - loss: 0.0573 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9989

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Epoch 00206: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 456ms/step - loss: 0.0573 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9989 - val_loss: 0.270
1 - val_f1_score: 0.9237 - val_accuracy: 0.9237 - val_auc: 0.9778
Epoch 207/500
50/50 [==============================] - ETA: 0s - loss: 0.0428 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9995
Epoch 00207: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0428 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9995 - val_loss: 0.297
8 - val_f1_score: 0.9242 - val_accuracy: 0.9242 - val_auc: 0.9735
Epoch 208/500
50/50 [==============================] - ETA: 0s - loss: 0.0697 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9986
Epoch 00208: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 457ms/step - loss: 0.0697 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9986 - val_loss: 0.296
9 - val_f1_score: 0.8963 - val_accuracy: 0.8967 - val_auc: 0.9656
Epoch 209/500
50/50 [==============================] - ETA: 0s - loss: 0.0394 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994
Epoch 00209: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0394 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994 - val_loss: 0.336
2 - val_f1_score: 0.9202 - val_accuracy: 0.9203 - val_auc: 0.9755
Epoch 210/500
50/50 [==============================] - ETA: 0s - loss: 0.0482 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9993
Epoch 00210: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 457ms/step - loss: 0.0482 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9993 - val_loss: 0.402
1 - val_f1_score: 0.9077 - val_accuracy: 0.9080 - val_auc: 0.9715
Epoch 211/500
50/50 [==============================] - ETA: 0s - loss: 0.0494 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9996
Epoch 00211: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 456ms/step - loss: 0.0494 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9996 - val_loss: 0.541
2 - val_f1_score: 0.8900 - val_accuracy: 0.8908 - val_auc: 0.9705
Epoch 212/500
50/50 [==============================] - ETA: 0s - loss: 0.0536 - f1_score: 0.9797 - accuracy: 0.9797 - auc: 0.9990
Epoch 00212: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 463ms/step - loss: 0.0536 - f1_score: 0.9797 - accuracy: 0.9797 - auc: 0.9990 - val_loss: 0.290
4 - val_f1_score: 0.9181 - val_accuracy: 0.9181 - val_auc: 0.9728
Epoch 213/500
50/50 [==============================] - ETA: 0s - loss: 0.0591 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9986
Epoch 00213: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0591 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9986 - val_loss: 0.241
5 - val_f1_score: 0.9230 - val_accuracy: 0.9230 - val_auc: 0.9738
Epoch 214/500
50/50 [==============================] - ETA: 0s - loss: 0.0422 - f1_score: 0.9831 - accuracy: 0.9831 - auc: 0.9995
Epoch 00214: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0422 - f1_score: 0.9831 - accuracy: 0.9831 - auc: 0.9995 - val_loss: 0.391
5 - val_f1_score: 0.9180 - val_accuracy: 0.9181 - val_auc: 0.9775
Epoch 215/500
50/50 [==============================] - ETA: 0s - loss: 0.0834 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9978
Epoch 00215: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0834 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9978 - val_loss: 0.291
1 - val_f1_score: 0.9095 - val_accuracy: 0.9095 - val_auc: 0.9718
Epoch 216/500
50/50 [==============================] - ETA: 0s - loss: 0.0511 - f1_score: 0.9797 - accuracy: 0.9797 - auc: 0.9991
Epoch 00216: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 465ms/step - loss: 0.0511 - f1_score: 0.9797 - accuracy: 0.9797 - auc: 0.9991 - val_loss: 0.470
9 - val_f1_score: 0.9018 - val_accuracy: 0.9022 - val_auc: 0.9768
Epoch 217/500
50/50 [==============================] - ETA: 0s - loss: 0.0404 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9995
Epoch 00217: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0404 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9995 - val_loss: 0.378
3 - val_f1_score: 0.9130 - val_accuracy: 0.9131 - val_auc: 0.9727
Epoch 218/500
50/50 [==============================] - ETA: 0s - loss: 0.0420 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9993
Epoch 00218: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0420 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9993 - val_loss: 0.333
8 - val_f1_score: 0.9200 - val_accuracy: 0.9200 - val_auc: 0.9762
Epoch 219/500
50/50 [==============================] - ETA: 0s - loss: 0.0323 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995
Epoch 00219: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0323 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995 - val_loss: 0.396
8 - val_f1_score: 0.9233 - val_accuracy: 0.9233 - val_auc: 0.9761
Epoch 220/500
50/50 [==============================] - ETA: 0s - loss: 0.0721 - f1_score: 0.9734 - accuracy: 0.9734 - auc: 0.9987
Epoch 00220: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 454ms/step - loss: 0.0721 - f1_score: 0.9734 - accuracy: 0.9734 - auc: 0.9987 - val_loss: 0.354
8 - val_f1_score: 0.9228 - val_accuracy: 0.9228 - val_auc: 0.9751
Epoch 221/500
50/50 [==============================] - ETA: 0s - loss: 0.0346 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996
Epoch 00221: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 459ms/step - loss: 0.0346 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996 - val_loss: 0.359
3 - val_f1_score: 0.9167 - val_accuracy: 0.9169 - val_auc: 0.9771
Epoch 222/500
50/50 [==============================] - ETA: 0s - loss: 0.0357 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9998
Epoch 00222: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0357 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9998 - val_loss: 0.375
```

1 - val_f1_score: 0.9236 - val_accuracy: 0.9236 - val_auc: 0.9768
Epoch 223/500
50/50 [==============================] - ETA: 0s - loss: 0.0377 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9996
Epoch 00223: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0377 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9996 - val_loss: 0.543
0 - val_f1_score: 0.8704 - val_accuracy: 0.8720 - val_auc: 0.9723
Epoch 224/500
50/50 [==============================] - ETA: 0s - loss: 0.0422 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9995
Epoch 00224: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0422 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9995 - val_loss: 0.320
9 - val_f1_score: 0.9240 - val_accuracy: 0.9241 - val_auc: 0.9790
Epoch 225/500
50/50 [==============================] - ETA: 0s - loss: 0.0330 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9998
Epoch 00225: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 456ms/step - loss: 0.0330 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9998 - val_loss: 0.383
0 - val_f1_score: 0.9173 - val_accuracy: 0.9173 - val_auc: 0.9758
Epoch 226/500
50/50 [==============================] - ETA: 0s - loss: 0.0380 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994
Epoch 00226: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 455ms/step - loss: 0.0380 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994 - val_loss: 0.269
4 - val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9784
Epoch 227/500
50/50 [==============================] - ETA: 0s - loss: 0.0272 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9997
Epoch 00227: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 464ms/step - loss: 0.0272 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9997 - val_loss: 0.276
6 - val_f1_score: 0.9228 - val_accuracy: 0.9228 - val_auc: 0.9747
Epoch 228/500
50/50 [==============================] - ETA: 0s - loss: 0.0847 - f1_score: 0.9721 - accuracy: 0.9722 - auc: 0.9987
Epoch 00228: val_accuracy did not improve from 0.92937
50/50 [==============================] - 23s 458ms/step - loss: 0.0847 - f1_score: 0.9721 - accuracy: 0.9722 - auc: 0.9987 - val_loss: 0.319
8 - val_f1_score: 0.9154 - val_accuracy: 0.9156 - val_auc: 0.9761
Epoch 229/500
50/50 [==============================] - ETA: 0s - loss: 0.0491 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9993
Epoch 00229: val_accuracy improved from 0.92937 to 0.93172, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 504ms/step - loss: 0.0491 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9993 - val_loss: 0.339
6 - val_f1_score: 0.9317 - val_accuracy: 0.9317 - val_auc: 0.9789
Epoch 230/500
50/50 [==============================] - ETA: 0s - loss: 0.0271 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9999
Epoch 00230: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 460ms/step - loss: 0.0271 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9999 - val_loss: 0.361
2 - val_f1_score: 0.9270 - val_accuracy: 0.9270 - val_auc: 0.9777
Epoch 231/500
50/50 [==============================] - ETA: 0s - loss: 0.0291 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998
Epoch 00231: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0291 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998 - val_loss: 0.291
1 - val_f1_score: 0.9231 - val_accuracy: 0.9231 - val_auc: 0.9766
Epoch 232/500
50/50 [==============================] - ETA: 0s - loss: 0.0276 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9996
Epoch 00232: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0276 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9996 - val_loss: 0.427
0 - val_f1_score: 0.9247 - val_accuracy: 0.9247 - val_auc: 0.9782
Epoch 233/500
50/50 [==============================] - ETA: 0s - loss: 0.0241 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999
Epoch 00233: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0241 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999 - val_loss: 0.658
5 - val_f1_score: 0.8921 - val_accuracy: 0.8928 - val_auc: 0.9729
Epoch 234/500
50/50 [==============================] - ETA: 0s - loss: 0.0329 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9997
Epoch 00234: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0329 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9997 - val_loss: 0.328
0 - val_f1_score: 0.9261 - val_accuracy: 0.9261 - val_auc: 0.9783
Epoch 235/500
50/50 [==============================] - ETA: 0s - loss: 0.0184 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000
Epoch 00235: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0184 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000 - val_loss: 0.329
8 - val_f1_score: 0.9259 - val_accuracy: 0.9259 - val_auc: 0.9756
Epoch 236/500
50/50 [==============================] - ETA: 0s - loss: 0.0305 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9995
Epoch 00236: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0305 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9995 - val_loss: 0.312
0 - val_f1_score: 0.9209 - val_accuracy: 0.9209 - val_auc: 0.9771
Epoch 237/500
50/50 [==============================] - ETA: 0s - loss: 0.0230 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 1.0000
Epoch 00237: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 466ms/step - loss: 0.0230 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 1.0000 - val_loss: 0.345
0 - val_f1_score: 0.9206 - val_accuracy: 0.9206 - val_auc: 0.9754
Epoch 238/500
50/50 [==============================] - ETA: 0s - loss: 0.0359 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9997
Epoch 00238: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0359 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9997 - val_loss: 0.347
6 - val_f1_score: 0.9247 - val_accuracy: 0.9247 - val_auc: 0.9780
Epoch 239/500
50/50 [==============================] - ETA: 0s - loss: 0.0321 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9996

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Epoch 00239: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0321 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9996 - val_loss: 0.372
9 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9790
Epoch 240/500
50/50 [==============================] - ETA: 0s - loss: 0.0581 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9989
Epoch 00240: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0581 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9989 - val_loss: 0.471
8 - val_f1_score: 0.9270 - val_accuracy: 0.9270 - val_auc: 0.9774
Epoch 241/500
50/50 [==============================] - ETA: 0s - loss: 0.0431 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9993
Epoch 00241: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0431 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9993 - val_loss: 0.361
1 - val_f1_score: 0.9251 - val_accuracy: 0.9252 - val_auc: 0.9776
Epoch 242/500
50/50 [==============================] - ETA: 0s - loss: 0.0359 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9996
Epoch 00242: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0359 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9996 - val_loss: 0.259
9 - val_f1_score: 0.9267 - val_accuracy: 0.9267 - val_auc: 0.9790
Epoch 243/500
50/50 [==============================] - ETA: 0s - loss: 0.0255 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9999
Epoch 00243: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0255 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9999 - val_loss: 0.294
6 - val_f1_score: 0.9239 - val_accuracy: 0.9239 - val_auc: 0.9755
Epoch 244/500
50/50 [==============================] - ETA: 0s - loss: 0.0316 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9997
Epoch 00244: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0316 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9997 - val_loss: 0.448
9 - val_f1_score: 0.9259 - val_accuracy: 0.9259 - val_auc: 0.9771
Epoch 245/500
50/50 [==============================] - ETA: 0s - loss: 0.0374 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9998
Epoch 00245: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 458ms/step - loss: 0.0374 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9998 - val_loss: 0.709
1 - val_f1_score: 0.8834 - val_accuracy: 0.8845 - val_auc: 0.9783
Epoch 246/500
50/50 [==============================] - ETA: 0s - loss: 0.0204 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9999
Epoch 00246: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0204 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9999 - val_loss: 0.325
1 - val_f1_score: 0.9276 - val_accuracy: 0.9277 - val_auc: 0.9771
Epoch 247/500
50/50 [==============================] - ETA: 0s - loss: 0.0233 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9998
Epoch 00247: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0233 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9998 - val_loss: 0.421
5 - val_f1_score: 0.9168 - val_accuracy: 0.9169 - val_auc: 0.9770
Epoch 248/500
50/50 [==============================] - ETA: 0s - loss: 0.0918 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9985
Epoch 00248: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0918 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9985 - val_loss: 0.379
5 - val_f1_score: 0.9061 - val_accuracy: 0.9061 - val_auc: 0.9661
Epoch 249/500
50/50 [==============================] - ETA: 0s - loss: 0.0569 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9984
Epoch 00249: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 458ms/step - loss: 0.0569 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9984 - val_loss: 0.450
8 - val_f1_score: 0.9103 - val_accuracy: 0.9105 - val_auc: 0.9748
Epoch 250/500
50/50 [==============================] - ETA: 0s - loss: 0.0389 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9995
Epoch 00250: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0389 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9995 - val_loss: 0.330
5 - val_f1_score: 0.9224 - val_accuracy: 0.9225 - val_auc: 0.9795
Epoch 251/500
50/50 [==============================] - ETA: 0s - loss: 0.0292 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9994
Epoch 00251: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0292 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9994 - val_loss: 0.309
4 - val_f1_score: 0.9306 - val_accuracy: 0.9306 - val_auc: 0.9792
Epoch 252/500
50/50 [==============================] - ETA: 0s - loss: 0.0167 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00252: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0167 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.318
7 - val_f1_score: 0.9306 - val_accuracy: 0.9306 - val_auc: 0.9772
Epoch 253/500
50/50 [==============================] - ETA: 0s - loss: 0.0235 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9999
Epoch 00253: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0235 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9999 - val_loss: 0.264
7 - val_f1_score: 0.9229 - val_accuracy: 0.9230 - val_auc: 0.9748
Epoch 254/500
50/50 [==============================] - ETA: 0s - loss: 0.0327 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9989
Epoch 00254: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0327 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9989 - val_loss: 0.417
0 - val_f1_score: 0.9021 - val_accuracy: 0.9025 - val_auc: 0.9760
Epoch 255/500
50/50 [==============================] - ETA: 0s - loss: 0.0441 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9997
Epoch 00255: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0441 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9997 - val_loss: 0.299
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8 - val_f1_score: 0.9316 - val_accuracy: 0.9316 - val_auc: 0.9808
Epoch 256/500
50/50 [==============================] - ETA: 0s - loss: 0.0300 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997
Epoch 00256: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0300 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997 - val_loss: 0.347
1 - val_f1_score: 0.9234 - val_accuracy: 0.9234 - val_auc: 0.9791
Epoch 257/500
50/50 [==============================] - ETA: 0s - loss: 0.0209 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999
Epoch 00257: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 458ms/step - loss: 0.0209 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999 - val_loss: 0.373
7 - val_f1_score: 0.9275 - val_accuracy: 0.9275 - val_auc: 0.9779
Epoch 258/500
50/50 [==============================] - ETA: 0s - loss: 0.0253 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998
Epoch 00258: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0253 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998 - val_loss: 0.485
5 - val_f1_score: 0.9125 - val_accuracy: 0.9128 - val_auc: 0.9786
Epoch 259/500
50/50 [==============================] - ETA: 0s - loss: 0.0266 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999
Epoch 00259: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0266 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999 - val_loss: 0.325
7 - val_f1_score: 0.9225 - val_accuracy: 0.9225 - val_auc: 0.9756
Epoch 260/500
50/50 [==============================] - ETA: 0s - loss: 0.0289 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996
Epoch 00260: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0289 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996 - val_loss: 0.261
5 - val_f1_score: 0.9237 - val_accuracy: 0.9237 - val_auc: 0.9773
Epoch 261/500
50/50 [==============================] - ETA: 0s - loss: 0.0268 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9998
Epoch 00261: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0268 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9998 - val_loss: 0.430
0 - val_f1_score: 0.9229 - val_accuracy: 0.9230 - val_auc: 0.9780
Epoch 262/500
50/50 [==============================] - ETA: 0s - loss: 0.0399 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994
Epoch 00262: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0399 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994 - val_loss: 0.278
0 - val_f1_score: 0.9216 - val_accuracy: 0.9216 - val_auc: 0.9756
Epoch 263/500
50/50 [==============================] - ETA: 0s - loss: 0.0398 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9994
Epoch 00263: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0398 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9994 - val_loss: 0.491
1 - val_f1_score: 0.9088 - val_accuracy: 0.9091 - val_auc: 0.9769
Epoch 264/500
50/50 [==============================] - ETA: 0s - loss: 0.0404 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9997
Epoch 00264: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0404 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9997 - val_loss: 0.406
0 - val_f1_score: 0.9211 - val_accuracy: 0.9211 - val_auc: 0.9762
Epoch 265/500
50/50 [==============================] - ETA: 0s - loss: 0.0443 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9996
Epoch 00265: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0443 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9996 - val_loss: 0.259
4 - val_f1_score: 0.9233 - val_accuracy: 0.9233 - val_auc: 0.9766
Epoch 266/500
50/50 [==============================] - ETA: 0s - loss: 0.0269 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9999
Epoch 00266: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0269 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9999 - val_loss: 0.348
3 - val_f1_score: 0.9108 - val_accuracy: 0.9111 - val_auc: 0.9766
Epoch 267/500
50/50 [==============================] - ETA: 0s - loss: 0.0240 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9997
Epoch 00267: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0240 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9997 - val_loss: 0.359
4 - val_f1_score: 0.9221 - val_accuracy: 0.9222 - val_auc: 0.9789
Epoch 268/500
50/50 [==============================] - ETA: 0s - loss: 0.0185 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9999
Epoch 00268: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0185 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9999 - val_loss: 0.466
7 - val_f1_score: 0.9155 - val_accuracy: 0.9158 - val_auc: 0.9793
Epoch 269/500
50/50 [==============================] - ETA: 0s - loss: 0.0263 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998
Epoch 00269: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0263 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998 - val_loss: 0.340
2 - val_f1_score: 0.9271 - val_accuracy: 0.9272 - val_auc: 0.9799
Epoch 270/500
50/50 [==============================] - ETA: 0s - loss: 0.0321 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 1.0000
Epoch 00270: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0321 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 1.0000 - val_loss: 0.282
5 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9789
Epoch 271/500
50/50 [==============================] - ETA: 0s - loss: 0.0127 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00271: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0127 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.335
1 - val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9789
Epoch 272/500
50/50 [==============================] - ETA: 0s - loss: 0.0204 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 1.0000

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Epoch 00272: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 455ms/step - loss: 0.0204 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 1.0000 - val_loss: 0.836
7 - val_f1_score: 0.8042 - val_accuracy: 0.8106 - val_auc: 0.9695
Epoch 273/500
50/50 [==============================] - ETA: 0s - loss: 0.0447 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9994
Epoch 00273: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0447 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9994 - val_loss: 0.418
1 - val_f1_score: 0.9260 - val_accuracy: 0.9261 - val_auc: 0.9787
Epoch 274/500
50/50 [==============================] - ETA: 0s - loss: 0.0242 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997
Epoch 00274: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 456ms/step - loss: 0.0242 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997 - val_loss: 0.446
5 - val_f1_score: 0.9224 - val_accuracy: 0.9225 - val_auc: 0.9783
Epoch 275/500
50/50 [==============================] - ETA: 0s - loss: 0.0164 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000
Epoch 00275: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 460ms/step - loss: 0.0164 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000 - val_loss: 0.462
7 - val_f1_score: 0.9123 - val_accuracy: 0.9125 - val_auc: 0.9760
Epoch 276/500
50/50 [==============================] - ETA: 0s - loss: 0.0217 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999
Epoch 00276: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 457ms/step - loss: 0.0217 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999 - val_loss: 0.454
7 - val_f1_score: 0.9044 - val_accuracy: 0.9048 - val_auc: 0.9781
Epoch 277/500
50/50 [==============================] - ETA: 0s - loss: 0.0501 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9995
Epoch 00277: val_accuracy did not improve from 0.93172
50/50 [==============================] - 23s 454ms/step - loss: 0.0501 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9995 - val_loss: 0.229
1 - val_f1_score: 0.9187 - val_accuracy: 0.9187 - val_auc: 0.9770
Epoch 278/500
50/50 [==============================] - ETA: 0s - loss: 0.0303 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998
Epoch 00278: val_accuracy improved from 0.93172 to 0.93422, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 502ms/step - loss: 0.0303 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998 - val_loss: 0.317
0 - val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9821
Epoch 279/500
50/50 [==============================] - ETA: 0s - loss: 0.0311 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9998
Epoch 00279: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 459ms/step - loss: 0.0311 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9998 - val_loss: 0.268
3 - val_f1_score: 0.9287 - val_accuracy: 0.9287 - val_auc: 0.9787
Epoch 280/500
50/50 [==============================] - ETA: 0s - loss: 0.0195 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999
Epoch 00280: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0195 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999 - val_loss: 0.426
6 - val_f1_score: 0.9125 - val_accuracy: 0.9128 - val_auc: 0.9798
Epoch 281/500
50/50 [==============================] - ETA: 0s - loss: 0.0119 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 1.0000
Epoch 00281: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0119 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 1.0000 - val_loss: 0.363
3 - val_f1_score: 0.9337 - val_accuracy: 0.9337 - val_auc: 0.9805
Epoch 282/500
50/50 [==============================] - ETA: 0s - loss: 0.0083 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00282: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0083 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.382
4 - val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9806
Epoch 283/500
50/50 [==============================] - ETA: 0s - loss: 0.0174 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999
Epoch 00283: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0174 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999 - val_loss: 0.390
4 - val_f1_score: 0.9216 - val_accuracy: 0.9217 - val_auc: 0.9775
Epoch 284/500
50/50 [==============================] - ETA: 0s - loss: 0.0174 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00284: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0174 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.402
5 - val_f1_score: 0.9280 - val_accuracy: 0.9280 - val_auc: 0.9791
Epoch 285/500
50/50 [==============================] - ETA: 0s - loss: 0.0253 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998
Epoch 00285: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0253 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998 - val_loss: 0.607
9 - val_f1_score: 0.8974 - val_accuracy: 0.8981 - val_auc: 0.9770
Epoch 286/500
50/50 [==============================] - ETA: 0s - loss: 0.0797 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9990
Epoch 00286: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0797 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9990 - val_loss: 0.421
8 - val_f1_score: 0.8845 - val_accuracy: 0.8850 - val_auc: 0.9651
Epoch 287/500
50/50 [==============================] - ETA: 0s - loss: 0.0791 - f1_score: 0.9747 - accuracy: 0.9747 - auc: 0.9981
Epoch 00287: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0791 - f1_score: 0.9747 - accuracy: 0.9747 - auc: 0.9981 - val_loss: 0.364
1 - val_f1_score: 0.9123 - val_accuracy: 0.9123 - val_auc: 0.9697
Epoch 288/500
50/50 [==============================] - ETA: 0s - loss: 0.0573 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9988
Epoch 00288: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0573 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9988 - val_loss: 1.062
9 - val_f1_score: 0.7850 - val_accuracy: 0.7867 - val_auc: 0.8596
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9 - val_f1_score: 0.7850 - val_accuracy: 0.7867 - val_auc: 0.8596
Epoch 289/500
50/50 [==============================] - ETA: 0s - loss: 0.0306 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9999
Epoch 00289: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0306 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9999 - val_loss: 0.424
7 - val_f1_score: 0.9181 - val_accuracy: 0.9181 - val_auc: 0.9748
Epoch 290/500
50/50 [==============================] - ETA: 0s - loss: 0.0437 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9993
Epoch 00290: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0437 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9993 - val_loss: 0.323
9 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9793
Epoch 291/500
50/50 [==============================] - ETA: 0s - loss: 0.0227 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00291: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 454ms/step - loss: 0.0227 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.399
1 - val_f1_score: 0.9283 - val_accuracy: 0.9283 - val_auc: 0.9795
Epoch 292/500
50/50 [==============================] - ETA: 0s - loss: 0.0181 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999
Epoch 00292: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0181 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999 - val_loss: 0.309
9 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9807
Epoch 293/500
50/50 [==============================] - ETA: 0s - loss: 0.0100 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00293: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0100 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.390
7 - val_f1_score: 0.9244 - val_accuracy: 0.9245 - val_auc: 0.9809
Epoch 294/500
50/50 [==============================] - ETA: 0s - loss: 0.0165 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998
Epoch 00294: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 459ms/step - loss: 0.0165 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998 - val_loss: 0.383
9 - val_f1_score: 0.9157 - val_accuracy: 0.9159 - val_auc: 0.9791
Epoch 295/500
50/50 [==============================] - ETA: 0s - loss: 0.0241 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9999
Epoch 00295: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0241 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9999 - val_loss: 0.366
9 - val_f1_score: 0.9252 - val_accuracy: 0.9253 - val_auc: 0.9787
Epoch 296/500
50/50 [==============================] - ETA: 0s - loss: 0.0224 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998
Epoch 00296: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0224 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998 - val_loss: 0.512
3 - val_f1_score: 0.8972 - val_accuracy: 0.8978 - val_auc: 0.9788
Epoch 297/500
50/50 [==============================] - ETA: 0s - loss: 0.0234 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999
Epoch 00297: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0234 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999 - val_loss: 0.589
8 - val_f1_score: 0.9053 - val_accuracy: 0.9056 - val_auc: 0.9767
Epoch 298/500
50/50 [==============================] - ETA: 0s - loss: 0.0189 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00298: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 454ms/step - loss: 0.0189 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.382
3 - val_f1_score: 0.9327 - val_accuracy: 0.9327 - val_auc: 0.9806
Epoch 299/500
50/50 [==============================] - ETA: 0s - loss: 0.0174 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9999
Epoch 00299: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0174 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9999 - val_loss: 0.326
3 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9802
Epoch 300/500
50/50 [==============================] - ETA: 0s - loss: 0.0110 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00300: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 466ms/step - loss: 0.0110 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.359
7 - val_f1_score: 0.9253 - val_accuracy: 0.9253 - val_auc: 0.9786
Epoch 301/500
50/50 [==============================] - ETA: 0s - loss: 0.0195 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9999
Epoch 00301: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 459ms/step - loss: 0.0195 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9999 - val_loss: 0.269
9 - val_f1_score: 0.9221 - val_accuracy: 0.9222 - val_auc: 0.9793
Epoch 302/500
50/50 [==============================] - ETA: 0s - loss: 0.0127 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999
Epoch 00302: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 459ms/step - loss: 0.0127 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999 - val_loss: 0.498
1 - val_f1_score: 0.9224 - val_accuracy: 0.9225 - val_auc: 0.9768
Epoch 303/500
50/50 [==============================] - ETA: 0s - loss: 0.0304 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997
Epoch 00303: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0304 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997 - val_loss: 0.564
2 - val_f1_score: 0.9005 - val_accuracy: 0.9011 - val_auc: 0.9785
Epoch 304/500
50/50 [==============================] - ETA: 0s - loss: 0.0382 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9998
Epoch 00304: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0382 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9998 - val_loss: 0.273
3 - val_f1_score: 0.9219 - val_accuracy: 0.9219 - val_auc: 0.9764
Epoch 305/500
50/50 [==============================] - ETA: 0s - loss: 0.0258 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9999

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Epoch 00305: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0258 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9999 - val_loss: 0.358
3 - val_f1_score: 0.9244 - val_accuracy: 0.9244 - val_auc: 0.9772
Epoch 306/500
50/50 [==============================] - ETA: 0s - loss: 0.0264 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998
Epoch 00306: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0264 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998 - val_loss: 0.360
8 - val_f1_score: 0.9323 - val_accuracy: 0.9323 - val_auc: 0.9801
Epoch 307/500
50/50 [==============================] - ETA: 0s - loss: 0.0132 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999
Epoch 00307: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0132 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999 - val_loss: 0.904
2 - val_f1_score: 0.8728 - val_accuracy: 0.8744 - val_auc: 0.9769
Epoch 308/500
50/50 [==============================] - ETA: 0s - loss: 0.0195 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999
Epoch 00308: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 454ms/step - loss: 0.0195 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999 - val_loss: 0.287
6 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9805
Epoch 309/500
50/50 [==============================] - ETA: 0s - loss: 0.0197 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 1.0000
Epoch 00309: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0197 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 1.0000 - val_loss: 0.404
6 - val_f1_score: 0.9153 - val_accuracy: 0.9156 - val_auc: 0.9801
Epoch 310/500
50/50 [==============================] - ETA: 0s - loss: 0.0150 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000
Epoch 00310: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0150 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000 - val_loss: 0.336
7 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9808
Epoch 311/500
50/50 [==============================] - ETA: 0s - loss: 0.0192 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00311: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 455ms/step - loss: 0.0192 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.327
0 - val_f1_score: 0.9230 - val_accuracy: 0.9231 - val_auc: 0.9790
Epoch 312/500
50/50 [==============================] - ETA: 0s - loss: 0.0161 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9998
Epoch 00312: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 455ms/step - loss: 0.0161 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9998 - val_loss: 0.379
7 - val_f1_score: 0.9319 - val_accuracy: 0.9319 - val_auc: 0.9813
Epoch 313/500
50/50 [==============================] - ETA: 0s - loss: 0.0176 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00313: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 455ms/step - loss: 0.0176 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.305
3 - val_f1_score: 0.9320 - val_accuracy: 0.9320 - val_auc: 0.9805
Epoch 314/500
50/50 [==============================] - ETA: 0s - loss: 0.0147 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000
Epoch 00314: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 454ms/step - loss: 0.0147 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000 - val_loss: 0.403
7 - val_f1_score: 0.9234 - val_accuracy: 0.9234 - val_auc: 0.9777
Epoch 315/500
50/50 [==============================] - ETA: 0s - loss: 0.0231 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000
Epoch 00315: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0231 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000 - val_loss: 0.359
5 - val_f1_score: 0.9200 - val_accuracy: 0.9202 - val_auc: 0.9767
Epoch 316/500
50/50 [==============================] - ETA: 0s - loss: 0.0139 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00316: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0139 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.487
3 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9766
Epoch 317/500
50/50 [==============================] - ETA: 0s - loss: 0.0180 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9998
Epoch 00317: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0180 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9998 - val_loss: 0.364
3 - val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9809
Epoch 318/500
50/50 [==============================] - ETA: 0s - loss: 0.0237 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999
Epoch 00318: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0237 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999 - val_loss: 0.298
9 - val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9787
Epoch 319/500
50/50 [==============================] - ETA: 0s - loss: 0.0155 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999
Epoch 00319: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0155 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999 - val_loss: 0.378
1 - val_f1_score: 0.9205 - val_accuracy: 0.9206 - val_auc: 0.9787
Epoch 320/500
50/50 [==============================] - ETA: 0s - loss: 0.0244 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9999
Epoch 00320: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0244 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9999 - val_loss: 0.314
7 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9799
Epoch 321/500
50/50 [==============================] - ETA: 0s - loss: 0.0183 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000
Epoch 00321: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0183 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000 - val_loss: 0.328
6 - val_f1_score: 0.9178 - val_accuracy: 0.9178 - val_auc: 0.9748
```

0 - val_f1_score: 0.9178 - val_accuracy: 0.9178 - val_auc: 0.9748

Epoch 322/500
50/50 [==============================] - ETA: 0s - loss: 0.0283 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9994
Epoch 00322: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0283 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9994 - val_loss: 0.328
7 - val_f1_score: 0.9309 - val_accuracy: 0.9309 - val_auc: 0.9799
Epoch 323/500
50/50 [==============================] - ETA: 0s - loss: 0.0188 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000
Epoch 00323: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0188 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000 - val_loss: 0.312
2 - val_f1_score: 0.9281 - val_accuracy: 0.9281 - val_auc: 0.9798
Epoch 324/500
50/50 [==============================] - ETA: 0s - loss: 0.0158 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000
Epoch 00324: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0158 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000 - val_loss: 0.344
9 - val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9795
Epoch 325/500
50/50 [==============================] - ETA: 0s - loss: 0.0196 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999
Epoch 00325: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 455ms/step - loss: 0.0196 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999 - val_loss: 0.288
9 - val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9793
Epoch 326/500
50/50 [==============================] - ETA: 0s - loss: 0.0199 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00326: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0199 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.590
5 - val_f1_score: 0.8992 - val_accuracy: 0.8998 - val_auc: 0.9758
Epoch 327/500
50/50 [==============================] - ETA: 0s - loss: 0.0229 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 1.0000
Epoch 00327: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0229 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 1.0000 - val_loss: 0.297
2 - val_f1_score: 0.9102 - val_accuracy: 0.9105 - val_auc: 0.9773
Epoch 328/500
50/50 [==============================] - ETA: 0s - loss: 0.0109 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00328: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0109 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.311
6 - val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9795
Epoch 329/500
50/50 [==============================] - ETA: 0s - loss: 0.0052 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00329: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0052 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.394
7 - val_f1_score: 0.9281 - val_accuracy: 0.9281 - val_auc: 0.9798
Epoch 330/500
50/50 [==============================] - ETA: 0s - loss: 0.0169 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998
Epoch 00330: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 457ms/step - loss: 0.0169 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998 - val_loss: 0.310
3 - val_f1_score: 0.9259 - val_accuracy: 0.9259 - val_auc: 0.9773
Epoch 331/500
50/50 [==============================] - ETA: 0s - loss: 0.0216 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998
Epoch 00331: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0216 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998 - val_loss: 0.437
4 - val_f1_score: 0.9178 - val_accuracy: 0.9180 - val_auc: 0.9777
Epoch 332/500
50/50 [==============================] - ETA: 0s - loss: 0.0303 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998
Epoch 00332: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 458ms/step - loss: 0.0303 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998 - val_loss: 0.265
8 - val_f1_score: 0.9294 - val_accuracy: 0.9294 - val_auc: 0.9778
Epoch 333/500
50/50 [==============================] - ETA: 0s - loss: 0.0162 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9999
Epoch 00333: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0162 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9999 - val_loss: 0.398
3 - val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9795
Epoch 334/500
50/50 [==============================] - ETA: 0s - loss: 0.0184 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 1.0000
Epoch 00334: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0184 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 1.0000 - val_loss: 0.441
0 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9785
Epoch 335/500
50/50 [==============================] - ETA: 0s - loss: 0.0153 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999
Epoch 00335: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0153 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999 - val_loss: 0.390
9 - val_f1_score: 0.9250 - val_accuracy: 0.9250 - val_auc: 0.9767
Epoch 336/500
50/50 [==============================] - ETA: 0s - loss: 0.0233 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999
Epoch 00336: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 455ms/step - loss: 0.0233 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999 - val_loss: 0.386
0 - val_f1_score: 0.9295 - val_accuracy: 0.9295 - val_auc: 0.9801
Epoch 337/500
50/50 [==============================] - ETA: 0s - loss: 0.0149 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 0.9998
Epoch 00337: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 455ms/step - loss: 0.0149 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 0.9998 - val_loss: 0.464
1 - val_f1_score: 0.9247 - val_accuracy: 0.9247 - val_auc: 0.9770
Epoch 338/500
50/50 [==============================] - ETA: 0s - loss: 0.0125 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000

```
Epoch 00338: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0125 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000 - val_loss: 0.425
8 - val_f1_score: 0.9287 - val_accuracy: 0.9287 - val_auc: 0.9778
Epoch 339/500
50/50 [==============================] - ETA: 0s - loss: 0.0156 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999
Epoch 00339: val_accuracy did not improve from 0.93422
50/50 [==============================] - 23s 456ms/step - loss: 0.0156 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999 - val_loss: 0.357
7 - val_f1_score: 0.9289 - val_accuracy: 0.9289 - val_auc: 0.9802
Epoch 340/500
50/50 [==============================] - ETA: 0s - loss: 0.0203 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00340: val_accuracy improved from 0.93422 to 0.93672, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 504ms/step - loss: 0.0203 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.347
2 - val_f1_score: 0.9367 - val_accuracy: 0.9367 - val_auc: 0.9828
Epoch 341/500
50/50 [==============================] - ETA: 0s - loss: 0.0252 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997
Epoch 00341: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 462ms/step - loss: 0.0252 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997 - val_loss: 0.238
5 - val_f1_score: 0.9162 - val_accuracy: 0.9164 - val_auc: 0.9782
Epoch 342/500
50/50 [==============================] - ETA: 0s - loss: 0.0463 - f1_score: 0.9815 - accuracy: 0.9816 - auc: 0.9994
Epoch 00342: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 459ms/step - loss: 0.0463 - f1_score: 0.9815 - accuracy: 0.9816 - auc: 0.9994 - val_loss: 0.277
4 - val_f1_score: 0.9204 - val_accuracy: 0.9205 - val_auc: 0.9748
Epoch 343/500
50/50 [==============================] - ETA: 0s - loss: 0.0281 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997
Epoch 00343: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0281 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997 - val_loss: 0.441
7 - val_f1_score: 0.9275 - val_accuracy: 0.9275 - val_auc: 0.9773
Epoch 344/500
50/50 [==============================] - ETA: 0s - loss: 0.0162 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00344: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0162 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.455
0 - val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9780
Epoch 345/500
50/50 [==============================] - ETA: 0s - loss: 0.0416 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9992
Epoch 00345: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0416 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9992 - val_loss: 0.398
3 - val_f1_score: 0.9176 - val_accuracy: 0.9178 - val_auc: 0.9792
Epoch 346/500
50/50 [==============================] - ETA: 0s - loss: 0.0274 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9998
Epoch 00346: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0274 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9998 - val_loss: 0.895
4 - val_f1_score: 0.8397 - val_accuracy: 0.8431 - val_auc: 0.9751
Epoch 347/500
50/50 [==============================] - ETA: 0s - loss: 0.0351 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997
Epoch 00347: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0351 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997 - val_loss: 0.251
1 - val_f1_score: 0.9314 - val_accuracy: 0.9314 - val_auc: 0.9797
Epoch 348/500
50/50 [==============================] - ETA: 0s - loss: 0.0182 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998
Epoch 00348: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0182 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998 - val_loss: 0.449
2 - val_f1_score: 0.9213 - val_accuracy: 0.9214 - val_auc: 0.9787
Epoch 349/500
50/50 [==============================] - ETA: 0s - loss: 0.0172 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9998
Epoch 00349: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0172 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9998 - val_loss: 0.305
4 - val_f1_score: 0.9233 - val_accuracy: 0.9233 - val_auc: 0.9775
Epoch 350/500
50/50 [==============================] - ETA: 0s - loss: 0.0234 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997
Epoch 00350: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0234 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997 - val_loss: 0.369
3 - val_f1_score: 0.9314 - val_accuracy: 0.9314 - val_auc: 0.9805
Epoch 351/500
50/50 [==============================] - ETA: 0s - loss: 0.0107 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00351: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0107 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.388
1 - val_f1_score: 0.9316 - val_accuracy: 0.9316 - val_auc: 0.9802
Epoch 352/500
50/50 [==============================] - ETA: 0s - loss: 0.0231 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998
Epoch 00352: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 458ms/step - loss: 0.0231 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998 - val_loss: 0.246
2 - val_f1_score: 0.9341 - val_accuracy: 0.9341 - val_auc: 0.9813
Epoch 353/500
50/50 [==============================] - ETA: 0s - loss: 0.0068 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00353: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0068 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.373
3 - val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9802
Epoch 354/500
50/50 [==============================] - ETA: 0s - loss: 0.0077 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00354: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0077 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.420
3 - val_f1_score: 0.9001 - val_accuracy: 0.9006 - val_auc: 0.9802
```

val_f1_score: 0.9661 - val_accuracy: 0.9668 - val_auc: 0.9802

Epoch 355/500
50/50 [==============================] - ETA: 0s - loss: 0.0143 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 1.0000
Epoch 00355: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0143 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 1.0000 - val_loss: 0.331
8 - val_f1_score: 0.9337 - val_accuracy: 0.9337 - val_auc: 0.9811
Epoch 356/500
50/50 [==============================] - ETA: 0s - loss: 0.0099 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00356: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0099 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.337
6 - val_f1_score: 0.9245 - val_accuracy: 0.9245 - val_auc: 0.9788
Epoch 357/500
50/50 [==============================] - ETA: 0s - loss: 0.0156 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 1.0000
Epoch 00357: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0156 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 1.0000 - val_loss: 0.454
1 - val_f1_score: 0.9293 - val_accuracy: 0.9294 - val_auc: 0.9787
Epoch 358/500
50/50 [==============================] - ETA: 0s - loss: 0.0117 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 1.0000
Epoch 00358: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0117 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 1.0000 - val_loss: 0.388
9 - val_f1_score: 0.9265 - val_accuracy: 0.9266 - val_auc: 0.9804
Epoch 359/500
50/50 [==============================] - ETA: 0s - loss: 0.0089 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000
Epoch 00359: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 460ms/step - loss: 0.0089 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000 - val_loss: 0.412
8 - val_f1_score: 0.9250 - val_accuracy: 0.9250 - val_auc: 0.9777
Epoch 360/500
50/50 [==============================] - ETA: 0s - loss: 0.0157 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9998
Epoch 00360: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0157 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9998 - val_loss: 0.329
7 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9796
Epoch 361/500
50/50 [==============================] - ETA: 0s - loss: 0.0085 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00361: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0085 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.361
3 - val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9781
Epoch 362/500
50/50 [==============================] - ETA: 0s - loss: 0.0081 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00362: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0081 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.341
0 - val_f1_score: 0.9205 - val_accuracy: 0.9206 - val_auc: 0.9782
Epoch 363/500
50/50 [==============================] - ETA: 0s - loss: 0.0144 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999
Epoch 00363: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0144 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999 - val_loss: 0.432
2 - val_f1_score: 0.9212 - val_accuracy: 0.9212 - val_auc: 0.9761
Epoch 364/500
50/50 [==============================] - ETA: 0s - loss: 0.0122 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000
Epoch 00364: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0122 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000 - val_loss: 0.408
4 - val_f1_score: 0.9304 - val_accuracy: 0.9305 - val_auc: 0.9807
Epoch 365/500
50/50 [==============================] - ETA: 0s - loss: 0.0202 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00365: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0202 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.312
8 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9769
Epoch 366/500
50/50 [==============================] - ETA: 0s - loss: 0.0269 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9998
Epoch 00366: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0269 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9998 - val_loss: 0.403
3 - val_f1_score: 0.9100 - val_accuracy: 0.9103 - val_auc: 0.9771
Epoch 367/500
50/50 [==============================] - ETA: 0s - loss: 0.0351 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9997
Epoch 00367: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0351 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9997 - val_loss: 0.363
1 - val_f1_score: 0.9123 - val_accuracy: 0.9125 - val_auc: 0.9740
Epoch 368/500
50/50 [==============================] - ETA: 0s - loss: 0.0159 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9999
Epoch 00368: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0159 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9999 - val_loss: 7.670
9 - val_f1_score: 0.3341 - val_accuracy: 0.4998 - val_auc: 0.4999
Epoch 369/500
50/50 [==============================] - ETA: 0s - loss: 0.0079 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00369: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 458ms/step - loss: 0.0079 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.561
7 - val_f1_score: 0.9206 - val_accuracy: 0.9206 - val_auc: 0.9746
Epoch 370/500
50/50 [==============================] - ETA: 0s - loss: 0.0152 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 0.9999
Epoch 00370: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0152 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 0.9999 - val_loss: 0.343
1 - val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9829
Epoch 371/500
50/50 [==============================] - ETA: 0s - loss: 0.0061 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000

Epoch 00371: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0061 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000 - val_loss: 0.352
7 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9810
Epoch 372/500
50/50 [==============================] - ETA: 0s - loss: 0.0200 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9997
Epoch 00372: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0200 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9997 - val_loss: 0.501
6 - val_f1_score: 0.9120 - val_accuracy: 0.9122 - val_auc: 0.9779
Epoch 373/500
50/50 [==============================] - ETA: 0s - loss: 0.0178 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9997
Epoch 00373: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0178 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9997 - val_loss: 0.301
0 - val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9814
Epoch 374/500
50/50 [==============================] - ETA: 0s - loss: 0.0061 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000
Epoch 00374: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0061 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000 - val_loss: 0.472
7 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9795
Epoch 375/500
50/50 [==============================] - ETA: 0s - loss: 0.0089 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 0.9999
Epoch 00375: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0089 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 0.9999 - val_loss: 0.339
0 - val_f1_score: 0.9260 - val_accuracy: 0.9261 - val_auc: 0.9791
Epoch 376/500
50/50 [==============================] - ETA: 0s - loss: 0.0097 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00376: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0097 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.353
0 - val_f1_score: 0.9084 - val_accuracy: 0.9087 - val_auc: 0.9788
Epoch 377/500
50/50 [==============================] - ETA: 0s - loss: 0.0278 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998
Epoch 00377: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0278 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998 - val_loss: 0.302
7 - val_f1_score: 0.9191 - val_accuracy: 0.9192 - val_auc: 0.9790
Epoch 378/500
50/50 [==============================] - ETA: 0s - loss: 0.0203 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9999
Epoch 00378: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0203 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9999 - val_loss: 0.358
3 - val_f1_score: 0.9275 - val_accuracy: 0.9275 - val_auc: 0.9771
Epoch 379/500
50/50 [==============================] - ETA: 0s - loss: 0.0257 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9999
Epoch 00379: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0257 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9999 - val_loss: 0.453
3 - val_f1_score: 0.9126 - val_accuracy: 0.9127 - val_auc: 0.9724
Epoch 380/500
50/50 [==============================] - ETA: 0s - loss: 0.0319 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998
Epoch 00380: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0319 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998 - val_loss: 0.356
2 - val_f1_score: 0.9306 - val_accuracy: 0.9306 - val_auc: 0.9807
Epoch 381/500
50/50 [==============================] - ETA: 0s - loss: 0.0204 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 1.0000
Epoch 00381: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0204 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 1.0000 - val_loss: 0.434
8 - val_f1_score: 0.9243 - val_accuracy: 0.9244 - val_auc: 0.9784
Epoch 382/500
50/50 [==============================] - ETA: 0s - loss: 0.0333 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998
Epoch 00382: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0333 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9998 - val_loss: 0.333
8 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9806
Epoch 383/500
50/50 [==============================] - ETA: 0s - loss: 0.0168 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00383: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0168 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.377
3 - val_f1_score: 0.9320 - val_accuracy: 0.9320 - val_auc: 0.9816
Epoch 384/500
50/50 [==============================] - ETA: 0s - loss: 0.0073 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00384: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0073 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.319
5 - val_f1_score: 0.9361 - val_accuracy: 0.9361 - val_auc: 0.9818
Epoch 385/500
50/50 [==============================] - ETA: 0s - loss: 0.0039 - f1_score: 0.9987 - accuracy: 0.9987 - auc: 1.0000
Epoch 00385: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0039 - f1_score: 0.9987 - accuracy: 0.9987 - auc: 1.0000 - val_loss: 0.351
1 - val_f1_score: 0.9364 - val_accuracy: 0.9364 - val_auc: 0.9819
Epoch 386/500
50/50 [==============================] - ETA: 0s - loss: 0.0033 - f1_score: 0.9984 - accuracy: 0.9984 - auc: 1.0000
Epoch 00386: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0033 - f1_score: 0.9984 - accuracy: 0.9984 - auc: 1.0000 - val_loss: 0.433
2 - val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9808
Epoch 387/500
50/50 [==============================] - ETA: 0s - loss: 0.0094 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000
Epoch 00387: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0094 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000 - val_loss: 0.485
4 - val_f1_score: 0.9237 - val_accuracy: 0.9237 - val_auc: 0.9766

Epoch 388/500
50/50 [==============================] - ETA: 0s - loss: 0.0216 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9998
Epoch 00388: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0216 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9998 - val_loss: 0.319
1 - val_f1_score: 0.9333 - val_accuracy: 0.9333 - val_auc: 0.9806
Epoch 389/500
50/50 [==============================] - ETA: 0s - loss: 0.0075 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00389: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0075 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.316
2 - val_f1_score: 0.9287 - val_accuracy: 0.9287 - val_auc: 0.9794
Epoch 390/500
50/50 [==============================] - ETA: 0s - loss: 0.0103 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00390: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0103 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.542
8 - val_f1_score: 0.9167 - val_accuracy: 0.9169 - val_auc: 0.9771
Epoch 391/500
50/50 [==============================] - ETA: 0s - loss: 0.0054 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00391: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 466ms/step - loss: 0.0054 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.418
5 - val_f1_score: 0.9271 - val_accuracy: 0.9272 - val_auc: 0.9800
Epoch 392/500
50/50 [==============================] - ETA: 0s - loss: 0.0103 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00392: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0103 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.401
2 - val_f1_score: 0.9174 - val_accuracy: 0.9177 - val_auc: 0.9813
Epoch 393/500
50/50 [==============================] - ETA: 0s - loss: 0.0045 - f1_score: 0.9994 - accuracy: 0.9994 - auc: 1.0000
Epoch 00393: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0045 - f1_score: 0.9994 - accuracy: 0.9994 - auc: 1.0000 - val_loss: 0.420
1 - val_f1_score: 0.9326 - val_accuracy: 0.9327 - val_auc: 0.9806
Epoch 394/500
50/50 [==============================] - ETA: 0s - loss: 0.0023 - f1_score: 0.9991 - accuracy: 0.9991 - auc: 1.0000
Epoch 00394: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0023 - f1_score: 0.9991 - accuracy: 0.9991 - auc: 1.0000 - val_loss: 0.555
6 - val_f1_score: 0.9187 - val_accuracy: 0.9189 - val_auc: 0.9795
Epoch 395/500
50/50 [==============================] - ETA: 0s - loss: 0.0133 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000
Epoch 00395: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0133 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000 - val_loss: 0.457
4 - val_f1_score: 0.8979 - val_accuracy: 0.8986 - val_auc: 0.9786
Epoch 396/500
50/50 [==============================] - ETA: 0s - loss: 0.0175 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 1.0000
Epoch 00396: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 458ms/step - loss: 0.0175 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 1.0000 - val_loss: 0.491
0 - val_f1_score: 0.9189 - val_accuracy: 0.9191 - val_auc: 0.9768
Epoch 397/500
50/50 [==============================] - ETA: 0s - loss: 0.0255 - f1_score: 0.9913 - accuracy: 0.9912 - auc: 0.9997
Epoch 00397: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0255 - f1_score: 0.9913 - accuracy: 0.9912 - auc: 0.9997 - val_loss: 0.465
2 - val_f1_score: 0.9107 - val_accuracy: 0.9111 - val_auc: 0.9803
Epoch 398/500
50/50 [==============================] - ETA: 0s - loss: 0.0258 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998
Epoch 00398: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0258 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998 - val_loss: 0.751
1 - val_f1_score: 0.9021 - val_accuracy: 0.9025 - val_auc: 0.9727
Epoch 399/500
50/50 [==============================] - ETA: 0s - loss: 0.0459 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9992
Epoch 00399: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0459 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9992 - val_loss: 0.814
1 - val_f1_score: 0.8368 - val_accuracy: 0.8405 - val_auc: 0.9783
Epoch 400/500
50/50 [==============================] - ETA: 0s - loss: 0.0258 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9998
Epoch 00400: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0258 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9998 - val_loss: 0.473
9 - val_f1_score: 0.9188 - val_accuracy: 0.9189 - val_auc: 0.9766
Epoch 401/500
50/50 [==============================] - ETA: 0s - loss: 0.0222 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998
Epoch 00401: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0222 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9998 - val_loss: 0.272
8 - val_f1_score: 0.9215 - val_accuracy: 0.9216 - val_auc: 0.9760
Epoch 402/500
50/50 [==============================] - ETA: 0s - loss: 0.0204 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997
Epoch 00402: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 458ms/step - loss: 0.0204 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997 - val_loss: 0.399
0 - val_f1_score: 0.9289 - val_accuracy: 0.9289 - val_auc: 0.9779
Epoch 403/500
50/50 [==============================] - ETA: 0s - loss: 0.0107 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00403: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0107 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.442
3 - val_f1_score: 0.9299 - val_accuracy: 0.9300 - val_auc: 0.9806
Epoch 404/500
50/50 [==============================] - ETA: 0s - loss: 0.0138 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000

Epoch 00404: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0138 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000 - val_loss: 0.525
3 - val_f1_score: 0.9235 - val_accuracy: 0.9236 - val_auc: 0.9782
Epoch 405/500
50/50 [==============================] - ETA: 0s - loss: 0.0172 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9998
Epoch 00405: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0172 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9998 - val_loss: 0.397
6 - val_f1_score: 0.9318 - val_accuracy: 0.9319 - val_auc: 0.9802
Epoch 406/500
50/50 [==============================] - ETA: 0s - loss: 0.0121 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00406: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0121 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.369
2 - val_f1_score: 0.9323 - val_accuracy: 0.9323 - val_auc: 0.9813
Epoch 407/500
50/50 [==============================] - ETA: 0s - loss: 0.0110 - f1_score: 0.9963 - accuracy: 0.9962 - auc: 1.0000
Epoch 00407: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0110 - f1_score: 0.9963 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.514
7 - val_f1_score: 0.8929 - val_accuracy: 0.8936 - val_auc: 0.9800
Epoch 408/500
50/50 [==============================] - ETA: 0s - loss: 0.0137 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999
Epoch 00408: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0137 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999 - val_loss: 0.440
2 - val_f1_score: 0.9312 - val_accuracy: 0.9312 - val_auc: 0.9802
Epoch 409/500
50/50 [==============================] - ETA: 0s - loss: 0.0135 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000
Epoch 00409: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0135 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000 - val_loss: 0.353
2 - val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9815
Epoch 410/500
50/50 [==============================] - ETA: 0s - loss: 0.0073 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00410: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0073 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.433
0 - val_f1_score: 0.9310 - val_accuracy: 0.9311 - val_auc: 0.9811
Epoch 411/500
50/50 [==============================] - ETA: 0s - loss: 0.0083 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00411: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0083 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.377
1 - val_f1_score: 0.9327 - val_accuracy: 0.9327 - val_auc: 0.9795
Epoch 412/500
50/50 [==============================] - ETA: 0s - loss: 0.0123 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00412: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0123 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.368
9 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9791
Epoch 413/500
50/50 [==============================] - ETA: 0s - loss: 0.0163 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00413: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0163 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.526
4 - val_f1_score: 0.9077 - val_accuracy: 0.9081 - val_auc: 0.9773
Epoch 414/500
50/50 [==============================] - ETA: 0s - loss: 0.0223 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998
Epoch 00414: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 457ms/step - loss: 0.0223 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998 - val_loss: 0.339
1 - val_f1_score: 0.9129 - val_accuracy: 0.9133 - val_auc: 0.9810
Epoch 415/500
50/50 [==============================] - ETA: 0s - loss: 0.0083 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00415: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 454ms/step - loss: 0.0083 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.437
8 - val_f1_score: 0.9306 - val_accuracy: 0.9306 - val_auc: 0.9813
Epoch 416/500
50/50 [==============================] - ETA: 0s - loss: 0.0225 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999
Epoch 00416: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 455ms/step - loss: 0.0225 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999 - val_loss: 0.483
6 - val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9782
Epoch 417/500
50/50 [==============================] - ETA: 0s - loss: 0.0173 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999
Epoch 00417: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 467ms/step - loss: 0.0173 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999 - val_loss: 0.365
3 - val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9799
Epoch 418/500
50/50 [==============================] - ETA: 0s - loss: 0.0154 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999
Epoch 00418: val_accuracy did not improve from 0.93672
50/50 [==============================] - 23s 456ms/step - loss: 0.0154 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999 - val_loss: 0.335
2 - val_f1_score: 0.9317 - val_accuracy: 0.9317 - val_auc: 0.9807
Epoch 419/500
50/50 [==============================] - ETA: 0s - loss: 0.0095 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000
Epoch 00419: val_accuracy improved from 0.93672 to 0.93797, saving model to /gdrive/My Drive/vgg_16_classifier.h5
50/50 [==============================] - 25s 504ms/step - loss: 0.0095 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000 - val_loss: 0.344
5 - val_f1_score: 0.9380 - val_accuracy: 0.9380 - val_auc: 0.9821
Epoch 420/500
50/50 [==============================] - ETA: 0s - loss: 0.0106 - f1_score: 0.9963 - accuracy: 0.9962 - auc: 1.0000
Epoch 00420: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 461ms/step - loss: 0.0106 - f1_score: 0.9963 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.330
6 - val_f1_score: 0.9337 - val_accuracy: 0.9337 - val_auc: 0.9806

Epoch 421/500
50/50 [==============================] - ETA: 0s - loss: 0.0140 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00421: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0140 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.4329 - val_f1_score: 0.9263 - val_accuracy: 0.9264 - val_auc: 0.9814
Epoch 422/500
50/50 [==============================] - ETA: 0s - loss: 0.0053 - f1_score: 0.9984 - accuracy: 0.9984 - auc: 1.0000
Epoch 00422: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0053 - f1_score: 0.9984 - accuracy: 0.9984 - auc: 1.0000 - val_loss: 0.3479 - val_f1_score: 0.9369 - val_accuracy: 0.9369 - val_auc: 0.9831
Epoch 423/500
50/50 [==============================] - ETA: 0s - loss: 0.0114 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00423: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 459ms/step - loss: 0.0114 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.3120 - val_f1_score: 0.9231 - val_accuracy: 0.9233 - val_auc: 0.9829
Epoch 424/500
50/50 [==============================] - ETA: 0s - loss: 0.0063 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000
Epoch 00424: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0063 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000 - val_loss: 0.3669 - val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9822
Epoch 425/500
50/50 [==============================] - ETA: 0s - loss: 0.0167 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000
Epoch 00425: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0167 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 1.0000 - val_loss: 0.5026 - val_f1_score: 0.9238 - val_accuracy: 0.9239 - val_auc: 0.9788
Epoch 426/500
50/50 [==============================] - ETA: 0s - loss: 0.0142 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000
Epoch 00426: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 458ms/step - loss: 0.0142 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000 - val_loss: 0.3967 - val_f1_score: 0.9248 - val_accuracy: 0.9248 - val_auc: 0.9768
Epoch 427/500
50/50 [==============================] - ETA: 0s - loss: 0.0201 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999
Epoch 00427: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0201 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999 - val_loss: 0.2868 - val_f1_score: 0.9134 - val_accuracy: 0.9136 - val_auc: 0.9793
Epoch 428/500
50/50 [==============================] - ETA: 0s - loss: 0.0135 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 1.0000
Epoch 00428: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0135 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 1.0000 - val_loss: 0.3245 - val_f1_score: 0.9247 - val_accuracy: 0.9247 - val_auc: 0.9746
Epoch 429/500
50/50 [==============================] - ETA: 0s - loss: 0.0151 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999
Epoch 00429: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 458ms/step - loss: 0.0151 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999 - val_loss: 0.3661 - val_f1_score: 0.9348 - val_accuracy: 0.9348 - val_auc: 0.9796
Epoch 430/500
50/50 [==============================] - ETA: 0s - loss: 0.0092 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00430: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0092 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.3561 - val_f1_score: 0.9251 - val_accuracy: 0.9252 - val_auc: 0.9776
Epoch 431/500
50/50 [==============================] - ETA: 0s - loss: 0.0104 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000
Epoch 00431: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0104 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000 - val_loss: 0.5143 - val_f1_score: 0.9307 - val_accuracy: 0.9308 - val_auc: 0.9784
Epoch 432/500
50/50 [==============================] - ETA: 0s - loss: 0.0241 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9999
Epoch 00432: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0241 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9999 - val_loss: 0.5178 - val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9763
Epoch 433/500
50/50 [==============================] - ETA: 0s - loss: 0.0114 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 0.9999
Epoch 00433: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0114 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 0.9999 - val_loss: 0.5519 - val_f1_score: 0.9203 - val_accuracy: 0.9205 - val_auc: 0.9792
Epoch 434/500
50/50 [==============================] - ETA: 0s - loss: 0.0155 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999
Epoch 00434: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0155 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9999 - val_loss: 0.3029 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9822
Epoch 435/500
50/50 [==============================] - ETA: 0s - loss: 0.0119 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999
Epoch 00435: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0119 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999 - val_loss: 0.3666 - val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9800
Epoch 436/500
50/50 [==============================] - ETA: 0s - loss: 0.0083 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00436: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 458ms/step - loss: 0.0083 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.4304 - val_f1_score: 0.9289 - val_accuracy: 0.9289 - val_auc: 0.9802
Epoch 437/500
50/50 [==============================] - ETA: 0s - loss: 0.0074 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000

Epoch 00437: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0074 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.327
3 - val_f1_score: 0.9289 - val_accuracy: 0.9289 - val_auc: 0.9825
Epoch 438/500
50/50 [==============================] - ETA: 0s - loss: 0.0102 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 0.9999
Epoch 00438: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0102 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 0.9999 - val_loss: 0.394
1 - val_f1_score: 0.9215 - val_accuracy: 0.9216 - val_auc: 0.9778
Epoch 439/500
50/50 [==============================] - ETA: 0s - loss: 0.0245 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997
Epoch 00439: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0245 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997 - val_loss: 0.462
2 - val_f1_score: 0.9303 - val_accuracy: 0.9303 - val_auc: 0.9793
Epoch 440/500
50/50 [==============================] - ETA: 0s - loss: 0.0155 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 0.9998
Epoch 00440: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 459ms/step - loss: 0.0155 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 0.9998 - val_loss: 0.414
8 - val_f1_score: 0.9258 - val_accuracy: 0.9258 - val_auc: 0.9776
Epoch 441/500
50/50 [==============================] - ETA: 0s - loss: 0.0151 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000
Epoch 00441: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0151 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 1.0000 - val_loss: 0.326
0 - val_f1_score: 0.9280 - val_accuracy: 0.9280 - val_auc: 0.9790
Epoch 442/500
50/50 [==============================] - ETA: 0s - loss: 0.0068 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00442: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0068 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.443
3 - val_f1_score: 0.9356 - val_accuracy: 0.9356 - val_auc: 0.9793
Epoch 443/500
50/50 [==============================] - ETA: 0s - loss: 0.0081 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000
Epoch 00443: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0081 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000 - val_loss: 0.378
1 - val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9803
Epoch 444/500
50/50 [==============================] - ETA: 0s - loss: 0.0187 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9997
Epoch 00444: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0187 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9997 - val_loss: 0.801
4 - val_f1_score: 0.8947 - val_accuracy: 0.8953 - val_auc: 0.9740
Epoch 445/500
50/50 [==============================] - ETA: 0s - loss: 0.0182 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999
Epoch 00445: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0182 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999 - val_loss: 0.330
9 - val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9806
Epoch 446/500
50/50 [==============================] - ETA: 0s - loss: 0.0107 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00446: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0107 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.320
4 - val_f1_score: 0.9294 - val_accuracy: 0.9295 - val_auc: 0.9824
Epoch 447/500
50/50 [==============================] - ETA: 0s - loss: 0.0116 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00447: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0116 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.290
9 - val_f1_score: 0.9337 - val_accuracy: 0.9337 - val_auc: 0.9810
Epoch 448/500
50/50 [==============================] - ETA: 0s - loss: 0.0124 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00448: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0124 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.411
2 - val_f1_score: 0.9225 - val_accuracy: 0.9227 - val_auc: 0.9804
Epoch 449/500
50/50 [==============================] - ETA: 0s - loss: 0.0079 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00449: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0079 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.384
3 - val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9807
Epoch 450/500
50/50 [==============================] - ETA: 0s - loss: 0.0070 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00450: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 459ms/step - loss: 0.0070 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.424
6 - val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9809
Epoch 451/500
50/50 [==============================] - ETA: 0s - loss: 0.0133 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00451: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0133 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.396
7 - val_f1_score: 0.8829 - val_accuracy: 0.8839 - val_auc: 0.9783
Epoch 452/500
50/50 [==============================] - ETA: 0s - loss: 0.0138 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000
Epoch 00452: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0138 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000 - val_loss: 0.555
2 - val_f1_score: 0.9158 - val_accuracy: 0.9159 - val_auc: 0.9749
Epoch 453/500
50/50 [==============================] - ETA: 0s - loss: 0.0155 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998
Epoch 00453: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0155 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998 - val_loss: 0.497
6 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9787

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Epoch 454/500
50/50 [==============================] - ETA: 0s - loss: 0.0121 - f1_score: 0.9963 - accuracy: 0.9962 - auc: 0.9999
Epoch 00454: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0121 - f1_score: 0.9963 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.420
6 - val_f1_score: 0.9176 - val_accuracy: 0.9178 - val_auc: 0.9808
Epoch 455/500
50/50 [==============================] - ETA: 0s - loss: 0.0089 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00455: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0089 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.466
8 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9797
Epoch 456/500
50/50 [==============================] - ETA: 0s - loss: 0.0073 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000
Epoch 00456: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0073 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000 - val_loss: 0.397
1 - val_f1_score: 0.9314 - val_accuracy: 0.9314 - val_auc: 0.9793
Epoch 457/500
50/50 [==============================] - ETA: 0s - loss: 0.0125 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00457: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0125 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.341
9 - val_f1_score: 0.9341 - val_accuracy: 0.9341 - val_auc: 0.9811
Epoch 458/500
50/50 [==============================] - ETA: 0s - loss: 0.0033 - f1_score: 0.9994 - accuracy: 0.9994 - auc: 1.0000
Epoch 00458: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0033 - f1_score: 0.9994 - accuracy: 0.9994 - auc: 1.0000 - val_loss: 0.370
4 - val_f1_score: 0.9312 - val_accuracy: 0.9312 - val_auc: 0.9821
Epoch 459/500
50/50 [==============================] - ETA: 0s - loss: 0.0105 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000
Epoch 00459: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0105 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 1.0000 - val_loss: 0.384
5 - val_f1_score: 0.9282 - val_accuracy: 0.9283 - val_auc: 0.9809
Epoch 460/500
50/50 [==============================] - ETA: 0s - loss: 0.0097 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00460: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0097 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.423
8 - val_f1_score: 0.9221 - val_accuracy: 0.9222 - val_auc: 0.9785
Epoch 461/500
50/50 [==============================] - ETA: 0s - loss: 0.0309 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997
Epoch 00461: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0309 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997 - val_loss: 0.692
9 - val_f1_score: 0.9099 - val_accuracy: 0.9102 - val_auc: 0.9734
Epoch 462/500
50/50 [==============================] - ETA: 0s - loss: 0.0308 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9996
Epoch 00462: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0308 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9996 - val_loss: 0.396
6 - val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9796
Epoch 463/500
50/50 [==============================] - ETA: 0s - loss: 0.0149 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999
Epoch 00463: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0149 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999 - val_loss: 0.298
8 - val_f1_score: 0.9267 - val_accuracy: 0.9267 - val_auc: 0.9786
Epoch 464/500
50/50 [==============================] - ETA: 0s - loss: 0.0142 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000
Epoch 00464: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0142 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 1.0000 - val_loss: 0.395
4 - val_f1_score: 0.9305 - val_accuracy: 0.9305 - val_auc: 0.9797
Epoch 465/500
50/50 [==============================] - ETA: 0s - loss: 0.0120 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00465: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0120 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.416
8 - val_f1_score: 0.9288 - val_accuracy: 0.9289 - val_auc: 0.9816
Epoch 466/500
50/50 [==============================] - ETA: 0s - loss: 0.0085 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00466: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 460ms/step - loss: 0.0085 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.408
3 - val_f1_score: 0.9224 - val_accuracy: 0.9225 - val_auc: 0.9801
Epoch 467/500
50/50 [==============================] - ETA: 0s - loss: 0.0104 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00467: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0104 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.643
6 - val_f1_score: 0.9238 - val_accuracy: 0.9239 - val_auc: 0.9757
Epoch 468/500
50/50 [==============================] - ETA: 0s - loss: 0.0347 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9996
Epoch 00468: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0347 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9996 - val_loss: 0.350
8 - val_f1_score: 0.9258 - val_accuracy: 0.9258 - val_auc: 0.9762
Epoch 469/500
50/50 [==============================] - ETA: 0s - loss: 0.0309 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995
Epoch 00469: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0309 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995 - val_loss: 0.451
5 - val_f1_score: 0.9236 - val_accuracy: 0.9236 - val_auc: 0.9758
Epoch 470/500
50/50 [==============================] - ETA: 0s - loss: 0.0126 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999
```

50/50 [==============================] - 23s 455ms/step - loss: 0.0126 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999 - val_loss: 0.362
8 - val_f1_score: 0.9306 - val_accuracy: 0.9306 - val_auc: 0.9793
Epoch 471/500
50/50 [==============================] - ETA: 0s - loss: 0.0117 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00471: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 454ms/step - loss: 0.0117 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.488
9 - val_f1_score: 0.9179 - val_accuracy: 0.9181 - val_auc: 0.9794
Epoch 472/500
50/50 [==============================] - ETA: 0s - loss: 0.0078 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00472: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 454ms/step - loss: 0.0078 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.394
1 - val_f1_score: 0.9305 - val_accuracy: 0.9305 - val_auc: 0.9806
Epoch 473/500
50/50 [==============================] - ETA: 0s - loss: 0.0099 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000
Epoch 00473: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 453ms/step - loss: 0.0099 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 1.0000 - val_loss: 0.391
3 - val_f1_score: 0.9326 - val_accuracy: 0.9327 - val_auc: 0.9794
Epoch 474/500
50/50 [==============================] - ETA: 0s - loss: 0.0058 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00474: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0058 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.593
3 - val_f1_score: 0.9119 - val_accuracy: 0.9122 - val_auc: 0.9776
Epoch 475/500
50/50 [==============================] - ETA: 0s - loss: 0.0073 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00475: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 454ms/step - loss: 0.0073 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.298
4 - val_f1_score: 0.9330 - val_accuracy: 0.9330 - val_auc: 0.9812
Epoch 476/500
50/50 [==============================] - ETA: 0s - loss: 0.0126 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000
Epoch 00476: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0126 - f1_score: 0.9959 - accuracy: 0.9959 - auc: 1.0000 - val_loss: 0.335
7 - val_f1_score: 0.9293 - val_accuracy: 0.9294 - val_auc: 0.9818
Epoch 477/500
50/50 [==============================] - ETA: 0s - loss: 0.0120 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 1.0000
Epoch 00477: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0120 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 1.0000 - val_loss: 0.329
2 - val_f1_score: 0.9205 - val_accuracy: 0.9206 - val_auc: 0.9819
Epoch 478/500
50/50 [==============================] - ETA: 0s - loss: 0.0098 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00478: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0098 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.398
0 - val_f1_score: 0.9348 - val_accuracy: 0.9348 - val_auc: 0.9810
Epoch 479/500
50/50 [==============================] - ETA: 0s - loss: 0.0087 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00479: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0087 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.338
5 - val_f1_score: 0.9296 - val_accuracy: 0.9297 - val_auc: 0.9827
Epoch 480/500
50/50 [==============================] - ETA: 0s - loss: 0.0022 - f1_score: 0.9994 - accuracy: 0.9994 - auc: 1.0000
Epoch 00480: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0022 - f1_score: 0.9994 - accuracy: 0.9994 - auc: 1.0000 - val_loss: 0.373
7 - val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9825
Epoch 481/500
50/50 [==============================] - ETA: 0s - loss: 0.0065 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000
Epoch 00481: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0065 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000 - val_loss: 0.486
6 - val_f1_score: 0.9210 - val_accuracy: 0.9211 - val_auc: 0.9781
Epoch 482/500
50/50 [==============================] - ETA: 0s - loss: 0.0104 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999
Epoch 00482: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 454ms/step - loss: 0.0104 - f1_score: 0.9950 - accuracy: 0.9950 - auc: 0.9999 - val_loss: 0.338
8 - val_f1_score: 0.9223 - val_accuracy: 0.9223 - val_auc: 0.9758
Epoch 483/500
50/50 [==============================] - ETA: 0s - loss: 0.0106 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00483: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0106 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.435
1 - val_f1_score: 0.9159 - val_accuracy: 0.9159 - val_auc: 0.9731
Epoch 484/500
50/50 [==============================] - ETA: 0s - loss: 0.0183 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999
Epoch 00484: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0183 - f1_score: 0.9956 - accuracy: 0.9956 - auc: 0.9999 - val_loss: 0.395
6 - val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9784
Epoch 485/500
50/50 [==============================] - ETA: 0s - loss: 0.0076 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000
Epoch 00485: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0076 - f1_score: 0.9975 - accuracy: 0.9975 - auc: 1.0000 - val_loss: 0.420
7 - val_f1_score: 0.9285 - val_accuracy: 0.9286 - val_auc: 0.9805
Epoch 486/500
50/50 [==============================] - ETA: 0s - loss: 0.0072 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000
Epoch 00486: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0072 - f1_score: 0.9972 - accuracy: 0.9972 - auc: 1.0000 - val_loss: 0.395
4 - val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9804

Epoch 487/500
50/50 [==============================] - ETA: 0s - loss: 0.0097 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000
Epoch 00487: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 458ms/step - loss: 0.0097 - f1_score: 0.9969 - accuracy: 0.9969 - auc: 1.0000 - val_loss: 0.4482 - val_f1_score: 0.9286 - val_accuracy: 0.9286 - val_auc: 0.9783
Epoch 488/500
50/50 [==============================] - ETA: 0s - loss: 0.0126 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999
Epoch 00488: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0126 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999 - val_loss: 0.3489 - val_f1_score: 0.9223 - val_accuracy: 0.9223 - val_auc: 0.9758
Epoch 489/500
50/50 [==============================] - ETA: 0s - loss: 0.0121 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000
Epoch 00489: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0121 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 1.0000 - val_loss: 0.3938 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9785
Epoch 490/500
50/50 [==============================] - ETA: 0s - loss: 0.0046 - f1_score: 0.9991 - accuracy: 0.9991 - auc: 1.0000
Epoch 00490: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 455ms/step - loss: 0.0046 - f1_score: 0.9991 - accuracy: 0.9991 - auc: 1.0000 - val_loss: 0.3683 - val_f1_score: 0.9200 - val_accuracy: 0.9202 - val_auc: 0.9819
Epoch 491/500
50/50 [==============================] - ETA: 0s - loss: 0.0105 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 0.9998
Epoch 00491: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0105 - f1_score: 0.9966 - accuracy: 0.9966 - auc: 0.9998 - val_loss: 0.3135 - val_f1_score: 0.9330 - val_accuracy: 0.9330 - val_auc: 0.9825
Epoch 492/500
50/50 [==============================] - ETA: 0s - loss: 0.0141 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999
Epoch 00492: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0141 - f1_score: 0.9944 - accuracy: 0.9944 - auc: 0.9999 - val_loss: 0.3996 - val_f1_score: 0.9279 - val_accuracy: 0.9280 - val_auc: 0.9768
Epoch 493/500
50/50 [==============================] - ETA: 0s - loss: 0.0053 - f1_score: 0.9984 - accuracy: 0.9984 - auc: 1.0000
Epoch 00493: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 458ms/step - loss: 0.0053 - f1_score: 0.9984 - accuracy: 0.9984 - auc: 1.0000 - val_loss: 0.4057 - val_f1_score: 0.9356 - val_accuracy: 0.9356 - val_auc: 0.9800
Epoch 494/500
50/50 [==============================] - ETA: 0s - loss: 0.0061 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000
Epoch 00494: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0061 - f1_score: 0.9981 - accuracy: 0.9981 - auc: 1.0000 - val_loss: 0.5422 - val_f1_score: 0.8978 - val_accuracy: 0.8984 - val_auc: 0.9774
Epoch 495/500
50/50 [==============================] - ETA: 0s - loss: 0.0120 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999
Epoch 00495: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 459ms/step - loss: 0.0120 - f1_score: 0.9962 - accuracy: 0.9962 - auc: 0.9999 - val_loss: 0.3531 - val_f1_score: 0.9276 - val_accuracy: 0.9277 - val_auc: 0.9787
Epoch 496/500
50/50 [==============================] - ETA: 0s - loss: 0.0018 - f1_score: 0.9991 - accuracy: 0.9991 - auc: 1.0000
Epoch 00496: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 458ms/step - loss: 0.0018 - f1_score: 0.9991 - accuracy: 0.9991 - auc: 1.0000 - val_loss: 0.3936 - val_f1_score: 0.9299 - val_accuracy: 0.9300 - val_auc: 0.9803
Epoch 497/500
50/50 [==============================] - ETA: 0s - loss: 0.0044 - f1_score: 0.9987 - accuracy: 0.9987 - auc: 1.0000
Epoch 00497: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 459ms/step - loss: 0.0044 - f1_score: 0.9987 - accuracy: 0.9987 - auc: 1.0000 - val_loss: 0.4476 - val_f1_score: 0.9287 - val_accuracy: 0.9287 - val_auc: 0.9810
Epoch 498/500
50/50 [==============================] - ETA: 0s - loss: 0.0127 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9999
Epoch 00498: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 456ms/step - loss: 0.0127 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9999 - val_loss: 0.4773 - val_f1_score: 0.9229 - val_accuracy: 0.9230 - val_auc: 0.9780
Epoch 499/500
50/50 [==============================] - ETA: 0s - loss: 0.0048 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000
Epoch 00499: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0048 - f1_score: 0.9978 - accuracy: 0.9978 - auc: 1.0000 - val_loss: 0.7244 - val_f1_score: 0.8989 - val_accuracy: 0.8995 - val_auc: 0.9765
Epoch 500/500
50/50 [==============================] - ETA: 0s - loss: 0.0165 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00500: val_accuracy did not improve from 0.93797
50/50 [==============================] - 23s 457ms/step - loss: 0.0165 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.3592 - val_f1_score: 0.9205 - val_accuracy: 0.9206 - val_auc: 0.9797

Out[0]:

<tensorflow.python.keras.callbacks.History at 0x7f79f6abcb70>

11. Loading the tensorflow extension and clearing the previous log files

In [0]:

```
%load_ext tensorboard
```

```
!rm -rf /gdrive/My Drive/logs/
```

In [0]:

```
!kill 5992
```

In [0]:

```
%tensorboard --logdir "/gdrive/My Drive/logs"
```

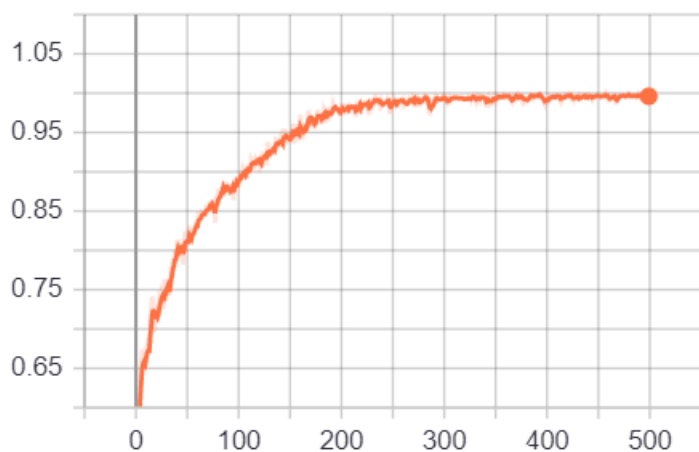Output hidden; open in https://colab.research.google.com to view.

11.1 Train accuracy

In [14]:

```
from IPython.display import Image
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\train_accuracy.PNG")
```
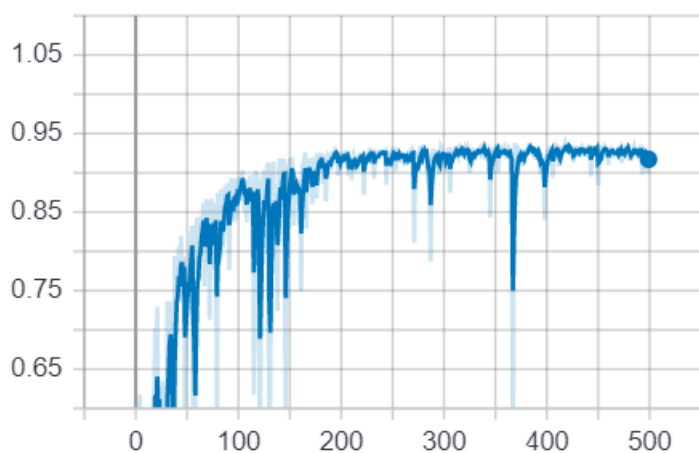
Out[14]:

epoch_accuracy

11.2 CV accuracy

In [16]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\cv_accuracy.PNG")
```
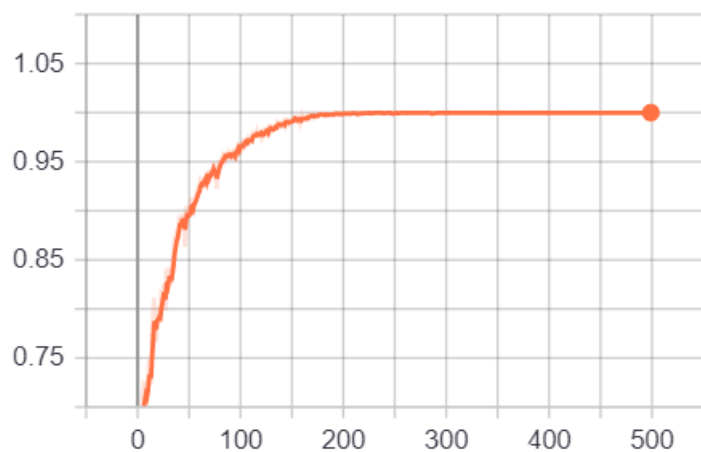
Out[16]:

epoch_accuracy

11.3 Train AUC

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\train_auc.PNG")
```
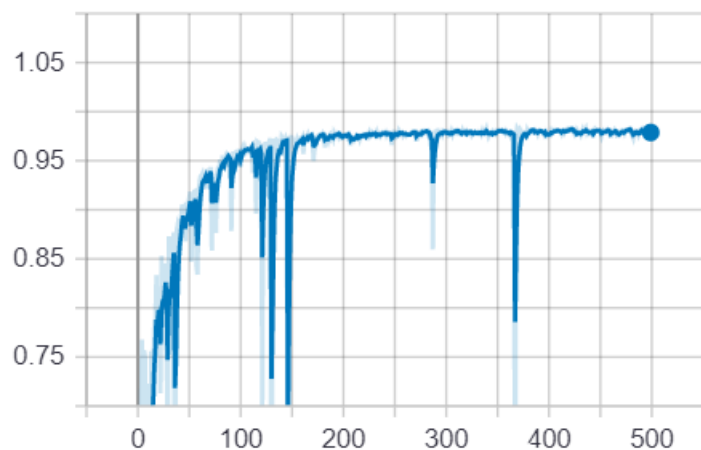
Out[17]:

epocn_auc

11.4 CV AUC

In [18]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\cv_auc.PNG")
```
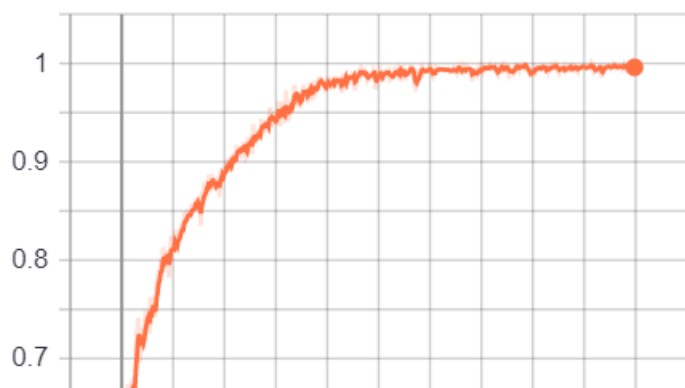
Out[18]:

epoch_auc

11.5 Train F1_score

In [19]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\train_f1.PNG")
```

Out[19]:

epoch_f1_score

11.6 CV F1_score

In [20]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\cv_f1.PNG")
```

Out[20]:

epoch_f1_score

11.7 Train loss

In [21]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\train_loss.PNG")
```
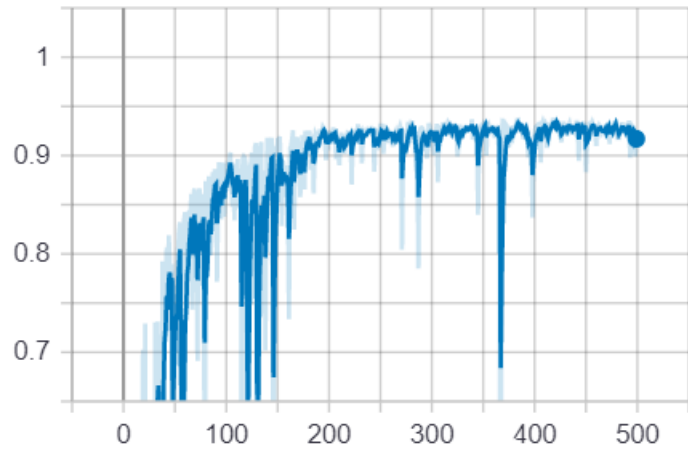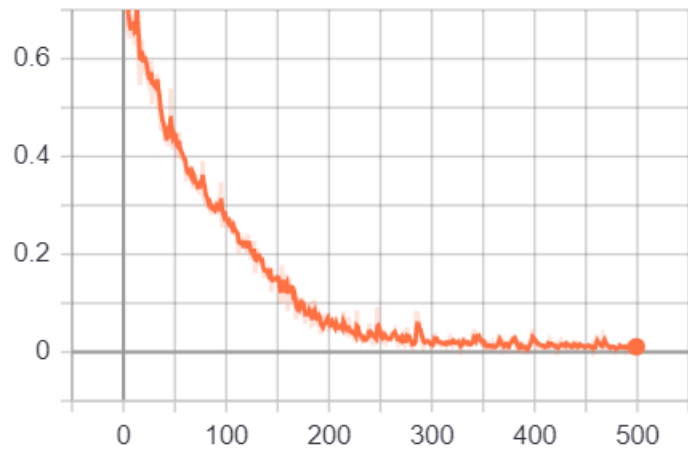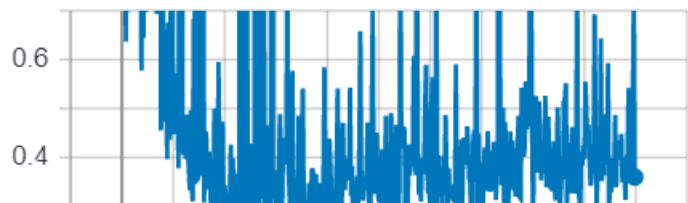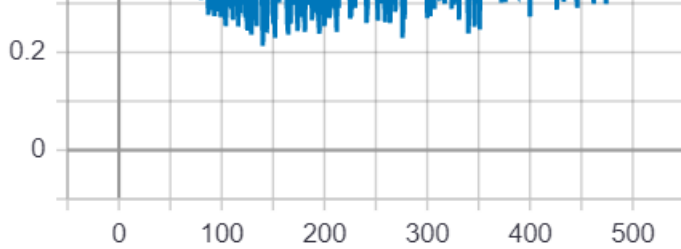
Out[21]:

epoch_loss

11.8 CV loss

In [22]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\cv_loss.PNG")
```

Out[22]:

epoch_loss

12 Load the saved model and evaluation on the test dataset

In [0]:

```
model.load_weights('/gdrive/My Drive/vgg_16_classifier.h5')
```

In [0]:

```
result = model.evaluate(X_cv , y_cv )
dict(zip(model.metrics_names, result))
```

200/200 [==============================] - 3s 13ms/step - loss: 0.3445 - f1_score: 0.9380 - accuracy: 0.9380 - auc: 0.9816

Out[0]:

```
{'accuracy': 0.9379687309265137,
 'auc': 0.9816121459007263,
 'f1_score': 0.937958836555481,
 'loss': 0.34445735812187195}
```

In [0]:

```
result = model.evaluate(X_test , y_test )
dict(zip(model.metrics_names, result))
```

250/250 [==============================] - 4s 14ms/step - loss: 0.4160 - f1_score: 0.9271 - accuracy: 0.9271 - auc: 0.9773

Out[0]:

```
{'accuracy': 0.9271249771118164,
 'auc': 0.9773353934288025,
 'f1_score': 0.9271152019500732,
 'loss': 0.415962278842926}
```

12.1 Confusion matrix

In [0]:

```
VALUES = {
0: 'FAKE IMAGE',
1: 'REAL IMAGE'}
```

In [0]:

```
def confusion_matrix(Y_true, Y_pred):
    Y_true = pd.Series([VALUES[y] for y in np.argmax(Y_true, axis=1)])
    Y_pred = pd.Series([VALUES[y] for y in np.argmax(Y_pred, axis=1)])
    return pd.crosstab(Y_true, Y_pred, rownames=['True'], colnames=['Pred'])
```

In [0]:

```
df = pd.DataFrame(confusion_matrix(y_test , model.predict(X_test)))
ax = sns.heatmap(df , annot=True , fmt="d" , cmap="YlGnBu")
```

	245	3755

FAKE IMAGE   REAL IMAGE
Pred
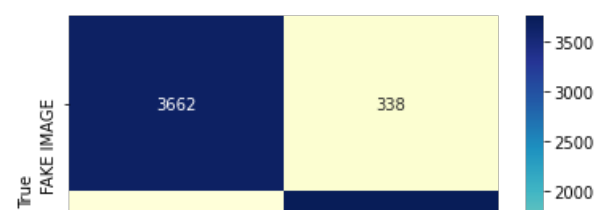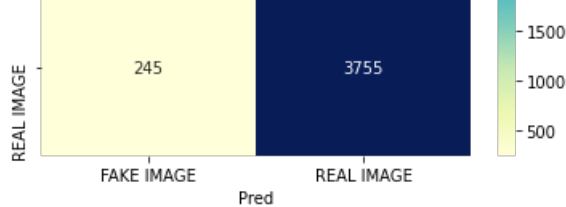
13. Creating the CG_Face model.

In [0]:

```python
def create_model2():
    model = Sequential()

    input_shape = (64,64,1)
    model.add(Conv2D(8, (5, 5), input_shape=input_shape))
    model.add(Activation(tf.nn.relu))

    model.add(Conv2D(8, (5, 5) ))
    model.add(Activation(tf.nn.relu))

    model.add(MaxPooling2D())
    model.add(Dropout(0.2))


    model.add(Conv2D(16, (3, 3)))
    model.add(Activation(tf.nn.relu))

    model.add(MaxPooling2D( ))
    model.add(Dropout(0.2))

    model.add(Conv2D(32, (3, 3)))
    model.add(Activation(tf.nn.relu))

    model.add(MaxPooling2D( ))
    model.add(Dropout(0.2))

    model.add(Conv2D(64, (3, 3)))
    model.add(Activation(tf.nn.relu))
    model.add(BatchNormalization())

    model.add(Flatten())
    model.add(Dense(256))
    model.add(Activation(tf.nn.relu))
    model.add(Dense(2))
    model.add(Activation(tf.nn.softmax))

    return model
```

In [0]:

```python
logdir = "/gdrive/My Drive/logs"
tensorboard_callback = tf.keras.callbacks.TensorBoard(log_dir = logdir, histogram_freq=1)
filepath = "/gdrive/My Drive/CG_FACE_Classifier.h5"
checkpoint = ModelCheckpoint(filepath=filepath,
                             monitor='val_accuracy',
                             verbose=1,
                             save_best_only=True , mode = "max")
```

In [0]:

```python
Model = create_model2()
Model.compile(optimizer=Adam(0.001),
        loss=binary_crossentropy,
        metrics=[f1_score , 'accuracy' , auc])

Model.fit(X_train, y_train, batch_size = 64,
      epochs=500,
      validation_data=(X_cv, y_cv),steps_per_epoch=50,
      callbacks = [tensorboard_callback , checkpoint])
      #class_weight = {0:class_weights[0] , 1:class_weights[1]})
```

```
Epoch 1/500
50/50 [==============================] - ETA: 0s - loss: 0.6714 - f1_score: 0.8441 - accuracy: 0.6366 - auc: 0.6802
Epoch 00001: val_accuracy improved from -inf to 0.65438, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 46ms/step - loss: 0.6714 - f1_score: 0.8441 - accuracy: 0.6366 - auc: 0.6802 - val_loss: 0.6813 -
```

```
val_f1_score: 0.6311 - val_accuracy: 0.6544 - val_auc: 0.7840
Epoch 2/500
50/50 [==============================] - ETA: 0s - loss: 0.5672 - f1_score: 0.7150 - accuracy: 0.7150 - auc: 0.7832
Epoch 00002: val_accuracy improved from 0.65438 to 0.72094, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.5672 - f1_score: 0.7150 - accuracy: 0.7150 - auc: 0.7832 - val_loss: 0.6674 -
val_f1_score: 0.7190 - val_accuracy: 0.7209 - val_auc: 0.8023
Epoch 3/500
50/50 [==============================] - ETA: 0s - loss: 0.5589 - f1_score: 0.7233 - accuracy: 0.7234 - auc: 0.7933
Epoch 00003: val_accuracy improved from 0.72094 to 0.75578, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.5589 - f1_score: 0.7233 - accuracy: 0.7234 - auc: 0.7933 - val_loss: 0.6641 -
val_f1_score: 0.7555 - val_accuracy: 0.7558 - val_auc: 0.8330
Epoch 4/500
50/50 [==============================] - ETA: 0s - loss: 0.5187 - f1_score: 0.7428 - accuracy: 0.7431 - auc: 0.8280
Epoch 00004: val_accuracy improved from 0.75578 to 0.77656, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.5187 - f1_score: 0.7428 - accuracy: 0.7431 - auc: 0.8280 - val_loss: 0.6562 -
val_f1_score: 0.7755 - val_accuracy: 0.7766 - val_auc: 0.8547
Epoch 5/500
49/50 [=============================>.] - ETA: 0s - loss: 0.5296 - f1_score: 0.7388 - accuracy: 0.7388 - auc: 0.8191
Epoch 00005: val_accuracy did not improve from 0.77656
50/50 [==============================] - 2s 37ms/step - loss: 0.5312 - f1_score: 0.7365 - accuracy: 0.7366 - auc: 0.8177 - val_loss: 0.6468 -
val_f1_score: 0.7560 - val_accuracy: 0.7588 - val_auc: 0.8528
Epoch 6/500
49/50 [=============================>.] - ETA: 0s - loss: 0.5138 - f1_score: 0.7487 - accuracy: 0.7487 - auc: 0.8295
Epoch 00006: val_accuracy improved from 0.77656 to 0.79141, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.5147 - f1_score: 0.7481 - accuracy: 0.7481 - auc: 0.8284 - val_loss: 0.6277 -
val_f1_score: 0.7910 - val_accuracy: 0.7914 - val_auc: 0.8730
Epoch 7/500
49/50 [=============================>.] - ETA: 0s - loss: 0.5005 - f1_score: 0.7635 - accuracy: 0.7637 - auc: 0.8419
Epoch 00007: val_accuracy improved from 0.79141 to 0.79453, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.4991 - f1_score: 0.7645 - accuracy: 0.7647 - auc: 0.8428 - val_loss: 0.5999 -
val_f1_score: 0.7945 - val_accuracy: 0.7945 - val_auc: 0.8751
Epoch 8/500
48/50 [==========================>..] - ETA: 0s - loss: 0.4827 - f1_score: 0.7695 - accuracy: 0.7695 - auc: 0.8537
Epoch 00008: val_accuracy improved from 0.79453 to 0.79609, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.4831 - f1_score: 0.7700 - accuracy: 0.7700 - auc: 0.8532 - val_loss: 0.5656 -
val_f1_score: 0.7957 - val_accuracy: 0.7961 - val_auc: 0.8780
Epoch 9/500
49/50 [=============================>.] - ETA: 0s - loss: 0.4695 - f1_score: 0.7816 - accuracy: 0.7816 - auc: 0.8622
Epoch 00009: val_accuracy improved from 0.79609 to 0.79781, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 39ms/step - loss: 0.4686 - f1_score: 0.7815 - accuracy: 0.7816 - auc: 0.8631 - val_loss: 0.5451 -
val_f1_score: 0.7970 - val_accuracy: 0.7978 - val_auc: 0.8830
Epoch 10/500
50/50 [==============================] - ETA: 0s - loss: 0.4535 - f1_score: 0.7881 - accuracy: 0.7881 - auc: 0.8760
Epoch 00010: val_accuracy did not improve from 0.79781
50/50 [==============================] - 2s 37ms/step - loss: 0.4535 - f1_score: 0.7881 - accuracy: 0.7881 - auc: 0.8760 - val_loss: 0.5425 -
val_f1_score: 0.7888 - val_accuracy: 0.7898 - val_auc: 0.8726
Epoch 11/500
49/50 [=============================>.] - ETA: 0s - loss: 0.4645 - f1_score: 0.7800 - accuracy: 0.7800 - auc: 0.8642
Epoch 00011: val_accuracy did not improve from 0.79781
50/50 [==============================] - 2s 37ms/step - loss: 0.4640 - f1_score: 0.7797 - accuracy: 0.7797 - auc: 0.8645 - val_loss: 0.5159 -
val_f1_score: 0.7889 - val_accuracy: 0.7908 - val_auc: 0.8834
Epoch 12/500
49/50 [=============================>.] - ETA: 0s - loss: 0.4575 - f1_score: 0.7914 - accuracy: 0.7915 - auc: 0.8713
Epoch 00012: val_accuracy improved from 0.79781 to 0.81328, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 39ms/step - loss: 0.4553 - f1_score: 0.7931 - accuracy: 0.7931 - auc: 0.8725 - val_loss: 0.4514 -
val_f1_score: 0.8125 - val_accuracy: 0.8133 - val_auc: 0.8978
Epoch 13/500
49/50 [=============================>.] - ETA: 0s - loss: 0.4660 - f1_score: 0.7853 - accuracy: 0.7854 - auc: 0.8693
Epoch 00013: val_accuracy did not improve from 0.81328
50/50 [==============================] - 2s 37ms/step - loss: 0.4659 - f1_score: 0.7840 - accuracy: 0.7841 - auc: 0.8700 - val_loss: 0.5487 -
val_f1_score: 0.6767 - val_accuracy: 0.6997 - val_auc: 0.8853
Epoch 14/500
50/50 [==============================] - ETA: 0s - loss: 0.4517 - f1_score: 0.7906 - accuracy: 0.7906 - auc: 0.8738
Epoch 00014: val_accuracy did not improve from 0.81328
50/50 [==============================] - 2s 37ms/step - loss: 0.4517 - f1_score: 0.7906 - accuracy: 0.7906 - auc: 0.8738 - val_loss: 0.4829 -
val_f1_score: 0.7516 - val_accuracy: 0.7597 - val_auc: 0.8920
Epoch 15/500
50/50 [==============================] - ETA: 0s - loss: 0.4305 - f1_score: 0.8055 - accuracy: 0.8056 - auc: 0.8864
Epoch 00015: val_accuracy did not improve from 0.81328
50/50 [==============================] - 2s 37ms/step - loss: 0.4305 - f1_score: 0.8055 - accuracy: 0.8056 - auc: 0.8864 - val_loss: 0.4549 -
val_f1_score: 0.7758 - val_accuracy: 0.7817 - val_auc: 0.9077
Epoch 16/500
50/50 [==============================] - ETA: 0s - loss: 0.4192 - f1_score: 0.8131 - accuracy: 0.8131 - auc: 0.8899
Epoch 00016: val_accuracy improved from 0.81328 to 0.82109, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.4192 - f1_score: 0.8131 - accuracy: 0.8131 - auc: 0.8899 - val_loss: 0.4012 -
val_f1_score: 0.8192 - val_accuracy: 0.8211 - val_auc: 0.9154
Epoch 17/500
50/50 [==============================] - ETA: 0s - loss: 0.4168 - f1_score: 0.8106 - accuracy: 0.8106 - auc: 0.8957
Epoch 00017: val_accuracy did not improve from 0.82109
50/50 [==============================] - 2s 37ms/step - loss: 0.4168 - f1_score: 0.8106 - accuracy: 0.8106 - auc: 0.8957 - val_loss: 0.5123 -
val_f1_score: 0.7435 - val_accuracy: 0.7541 - val_auc: 0.9074
Epoch 18/500
```

50/50 [==============================] - ETA: 0s - loss: 0.4117 - f1_score: 0.8150 - accuracy: 0.8150 - auc: 0.8972
Epoch 00018: val_accuracy did not improve from 0.82109
50/50 [==============================] - 2s 38ms/step - loss: 0.4117 - f1_score: 0.8150 - accuracy: 0.8150 - auc: 0.8972 - val_loss: 0.4233 - val_f1_score: 0.7991 - val_accuracy: 0.8030 - val_auc: 0.9131
Epoch 19/500
49/50 [=============================>.] - ETA: 0s - loss: 0.4010 - f1_score: 0.8230 - accuracy: 0.8230 - auc: 0.9021
Epoch 00019: val_accuracy did not improve from 0.82109
50/50 [==============================] - 2s 37ms/step - loss: 0.3988 - f1_score: 0.8247 - accuracy: 0.8247 - auc: 0.9031 - val_loss: 0.4048 - val_f1_score: 0.8076 - val_accuracy: 0.8102 - val_auc: 0.9164
Epoch 20/500
50/50 [==============================] - ETA: 0s - loss: 0.3833 - f1_score: 0.8311 - accuracy: 0.8316 - auc: 0.9098
Epoch 00020: val_accuracy improved from 0.82109 to 0.83000, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 42ms/step - loss: 0.3833 - f1_score: 0.8311 - accuracy: 0.8316 - auc: 0.9098 - val_loss: 0.3763 - val_f1_score: 0.8289 - val_accuracy: 0.8300 - val_auc: 0.9208
Epoch 21/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3890 - f1_score: 0.8303 - accuracy: 0.8307 - auc: 0.9080
Epoch 00021: val_accuracy did not improve from 0.83000
50/50 [==============================] - 2s 40ms/step - loss: 0.3904 - f1_score: 0.8287 - accuracy: 0.8291 - auc: 0.9070 - val_loss: 0.3918 - val_f1_score: 0.8147 - val_accuracy: 0.8170 - val_auc: 0.9232
Epoch 22/500
49/50 [=============================>.] - ETA: 0s - loss: 0.4027 - f1_score: 0.8208 - accuracy: 0.8208 - auc: 0.8998
Epoch 00022: val_accuracy improved from 0.83000 to 0.84703, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 43ms/step - loss: 0.4022 - f1_score: 0.8200 - accuracy: 0.8200 - auc: 0.9003 - val_loss: 0.3512 - val_f1_score: 0.8467 - val_accuracy: 0.8470 - val_auc: 0.9269
Epoch 23/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3853 - f1_score: 0.8274 - accuracy: 0.8275 - auc: 0.9105
Epoch 00023: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 39ms/step - loss: 0.3861 - f1_score: 0.8262 - accuracy: 0.8263 - auc: 0.9099 - val_loss: 0.4465 - val_f1_score: 0.7768 - val_accuracy: 0.7828 - val_auc: 0.9092
Epoch 24/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3819 - f1_score: 0.8275 - accuracy: 0.8275 - auc: 0.9123
Epoch 00024: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 37ms/step - loss: 0.3839 - f1_score: 0.8262 - accuracy: 0.8263 - auc: 0.9118 - val_loss: 0.3858 - val_f1_score: 0.8272 - val_accuracy: 0.8272 - val_auc: 0.9067
Epoch 25/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3726 - f1_score: 0.8418 - accuracy: 0.8418 - auc: 0.9162
Epoch 00025: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 37ms/step - loss: 0.3753 - f1_score: 0.8400 - accuracy: 0.8400 - auc: 0.9151 - val_loss: 0.4926 - val_f1_score: 0.7581 - val_accuracy: 0.7677 - val_auc: 0.9245
Epoch 26/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3788 - f1_score: 0.8328 - accuracy: 0.8332 - auc: 0.9126
Epoch 00026: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 37ms/step - loss: 0.3793 - f1_score: 0.8331 - accuracy: 0.8334 - auc: 0.9123 - val_loss: 0.3479 - val_f1_score: 0.8463 - val_accuracy: 0.8464 - val_auc: 0.9254
Epoch 27/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3751 - f1_score: 0.8359 - accuracy: 0.8361 - auc: 0.9162
Epoch 00027: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 39ms/step - loss: 0.3753 - f1_score: 0.8354 - accuracy: 0.8356 - auc: 0.9163 - val_loss: 0.3463 - val_f1_score: 0.8437 - val_accuracy: 0.8444 - val_auc: 0.9312
Epoch 28/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3589 - f1_score: 0.8482 - accuracy: 0.8482 - auc: 0.9230
Epoch 00028: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 40ms/step - loss: 0.3595 - f1_score: 0.8478 - accuracy: 0.8478 - auc: 0.9229 - val_loss: 0.4660 - val_f1_score: 0.7792 - val_accuracy: 0.7864 - val_auc: 0.9294
Epoch 29/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3616 - f1_score: 0.8408 - accuracy: 0.8409 - auc: 0.9191
Epoch 00029: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 41ms/step - loss: 0.3600 - f1_score: 0.8412 - accuracy: 0.8413 - auc: 0.9198 - val_loss: 0.4338 - val_f1_score: 0.7920 - val_accuracy: 0.7978 - val_auc: 0.9276
Epoch 30/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3670 - f1_score: 0.8339 - accuracy: 0.8339 - auc: 0.9178
Epoch 00030: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 40ms/step - loss: 0.3664 - f1_score: 0.8350 - accuracy: 0.8350 - auc: 0.9182 - val_loss: 0.3727 - val_f1_score: 0.8324 - val_accuracy: 0.8344 - val_auc: 0.9327
Epoch 31/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3456 - f1_score: 0.8563 - accuracy: 0.8565 - auc: 0.9300
Epoch 00031: val_accuracy did not improve from 0.84703
50/50 [==============================] - 2s 41ms/step - loss: 0.3464 - f1_score: 0.8564 - accuracy: 0.8566 - auc: 0.9296 - val_loss: 0.3914 - val_f1_score: 0.8210 - val_accuracy: 0.8242 - val_auc: 0.9357
Epoch 32/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3508 - f1_score: 0.8485 - accuracy: 0.8485 - auc: 0.9270
Epoch 00032: val_accuracy improved from 0.84703 to 0.85141, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 43ms/step - loss: 0.3517 - f1_score: 0.8487 - accuracy: 0.8487 - auc: 0.9267 - val_loss: 0.3413 - val_f1_score: 0.8503 - val_accuracy: 0.8514 - val_auc: 0.9388
Epoch 33/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3451 - f1_score: 0.8457 - accuracy: 0.8457 - auc: 0.9266
Epoch 00033: val_accuracy improved from 0.85141 to 0.86531, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 39ms/step - loss: 0.3462 - f1_score: 0.8444 - accuracy: 0.8444 - auc: 0.9259 - val_loss: 0.3181 - val_f1_score: 0.8653 - val_accuracy: 0.8653 - val_auc: 0.9375
Epoch 34/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3498 - f1_score: 0.8482 - accuracy: 0.8482 - auc: 0.9249
Epoch 00034: val_accuracy did not improve from 0.86531
50/50 [==============================] - 2s 37ms/step - loss: 0.3506 - f1_score: 0.8478 - accuracy: 0.8478 - auc: 0.9248 - val_loss: 0.3430 -

val_f1_score: 0.8481 - val_accuracy: 0.8483 - val_auc: 0.9278
Epoch 35/500
50/50 [==============================] - ETA: 0s - loss: 0.3680 - f1_score: 0.8383 - accuracy: 0.8384 - auc: 0.9177
Epoch 00035: val_accuracy did not improve from 0.86531
50/50 [==============================] - 2s 37ms/step - loss: 0.3680 - f1_score: 0.8383 - accuracy: 0.8384 - auc: 0.9177 - val_loss: 0.3666 - val_f1_score: 0.8397 - val_accuracy: 0.8405 - val_auc: 0.9222
Epoch 36/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3707 - f1_score: 0.8274 - accuracy: 0.8275 - auc: 0.9183
Epoch 00036: val_accuracy did not improve from 0.86531
50/50 [==============================] - 2s 37ms/step - loss: 0.3683 - f1_score: 0.8284 - accuracy: 0.8284 - auc: 0.9193 - val_loss: 0.3177 - val_f1_score: 0.8581 - val_accuracy: 0.8584 - val_auc: 0.9411
Epoch 37/500
50/50 [==============================] - ETA: 0s - loss: 0.3365 - f1_score: 0.8534 - accuracy: 0.8534 - auc: 0.9327
Epoch 00037: val_accuracy did not improve from 0.86531
50/50 [==============================] - 2s 37ms/step - loss: 0.3365 - f1_score: 0.8534 - accuracy: 0.8534 - auc: 0.9327 - val_loss: 0.3300 - val_f1_score: 0.8547 - val_accuracy: 0.8553 - val_auc: 0.9398
Epoch 38/500
50/50 [==============================] - ETA: 0s - loss: 0.3361 - f1_score: 0.8615 - accuracy: 0.8616 - auc: 0.9345
Epoch 00038: val_accuracy improved from 0.86531 to 0.87266, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 42ms/step - loss: 0.3361 - f1_score: 0.8615 - accuracy: 0.8616 - auc: 0.9345 - val_loss: 0.3015 - val_f1_score: 0.8725 - val_accuracy: 0.8727 - val_auc: 0.9467
Epoch 39/500
50/50 [==============================] - ETA: 0s - loss: 0.3372 - f1_score: 0.8552 - accuracy: 0.8553 - auc: 0.9336
Epoch 00039: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3372 - f1_score: 0.8552 - accuracy: 0.8553 - auc: 0.9336 - val_loss: 0.4618 - val_f1_score: 0.7720 - val_accuracy: 0.7791 - val_auc: 0.9155
Epoch 40/500
50/50 [==============================] - ETA: 0s - loss: 0.3309 - f1_score: 0.8576 - accuracy: 0.8578 - auc: 0.9349
Epoch 00040: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3309 - f1_score: 0.8576 - accuracy: 0.8578 - auc: 0.9349 - val_loss: 0.3732 - val_f1_score: 0.8355 - val_accuracy: 0.8375 - val_auc: 0.9383
Epoch 41/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3599 - f1_score: 0.8386 - accuracy: 0.8386 - auc: 0.9206
Epoch 00041: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 38ms/step - loss: 0.3597 - f1_score: 0.8387 - accuracy: 0.8388 - auc: 0.9207 - val_loss: 0.3531 - val_f1_score: 0.8372 - val_accuracy: 0.8391 - val_auc: 0.9417
Epoch 42/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3490 - f1_score: 0.8492 - accuracy: 0.8492 - auc: 0.9268
Epoch 00042: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 38ms/step - loss: 0.3485 - f1_score: 0.8487 - accuracy: 0.8487 - auc: 0.9270 - val_loss: 0.3406 - val_f1_score: 0.8526 - val_accuracy: 0.8527 - val_auc: 0.9284
Epoch 43/500
50/50 [==============================] - ETA: 0s - loss: 0.3195 - f1_score: 0.8593 - accuracy: 0.8594 - auc: 0.9389
Epoch 00043: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3195 - f1_score: 0.8593 - accuracy: 0.8594 - auc: 0.9389 - val_loss: 0.3766 - val_f1_score: 0.8370 - val_accuracy: 0.8386 - val_auc: 0.9317
Epoch 44/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3451 - f1_score: 0.8456 - accuracy: 0.8457 - auc: 0.9292
Epoch 00044: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3469 - f1_score: 0.8447 - accuracy: 0.8447 - auc: 0.9285 - val_loss: 0.3133 - val_f1_score: 0.8651 - val_accuracy: 0.8656 - val_auc: 0.9451
Epoch 45/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3227 - f1_score: 0.8596 - accuracy: 0.8597 - auc: 0.9365
Epoch 00045: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3230 - f1_score: 0.8590 - accuracy: 0.8591 - auc: 0.9362 - val_loss: 0.4180 - val_f1_score: 0.8158 - val_accuracy: 0.8202 - val_auc: 0.9452
Epoch 46/500
50/50 [==============================] - ETA: 0s - loss: 0.3299 - f1_score: 0.8569 - accuracy: 0.8569 - auc: 0.9324
Epoch 00046: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3299 - f1_score: 0.8569 - accuracy: 0.8569 - auc: 0.9324 - val_loss: 0.3069 - val_f1_score: 0.8691 - val_accuracy: 0.8695 - val_auc: 0.9476
Epoch 47/500
50/50 [==============================] - ETA: 0s - loss: 0.3319 - f1_score: 0.8577 - accuracy: 0.8578 - auc: 0.9318
Epoch 00047: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3319 - f1_score: 0.8577 - accuracy: 0.8578 - auc: 0.9318 - val_loss: 0.3649 - val_f1_score: 0.8342 - val_accuracy: 0.8363 - val_auc: 0.9382
Epoch 48/500
47/50 [============================>..] - ETA: 0s - loss: 0.3360 - f1_score: 0.8613 - accuracy: 0.8614 - auc: 0.9312
Epoch 00048: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3350 - f1_score: 0.8612 - accuracy: 0.8612 - auc: 0.9320 - val_loss: 0.3210 - val_f1_score: 0.8596 - val_accuracy: 0.8606 - val_auc: 0.9481
Epoch 49/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3067 - f1_score: 0.8632 - accuracy: 0.8632 - auc: 0.9431
Epoch 00049: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3074 - f1_score: 0.8628 - accuracy: 0.8628 - auc: 0.9428 - val_loss: 0.3583 - val_f1_score: 0.8441 - val_accuracy: 0.8461 - val_auc: 0.9483
Epoch 50/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3189 - f1_score: 0.8629 - accuracy: 0.8629 - auc: 0.9377
Epoch 00050: val_accuracy did not improve from 0.87266
50/50 [==============================] - 2s 37ms/step - loss: 0.3180 - f1_score: 0.8634 - accuracy: 0.8634 - auc: 0.9382 - val_loss: 0.3180 - val_f1_score: 0.8603 - val_accuracy: 0.8611 - val_auc: 0.9494
Epoch 51/500

49/50 [============================>.] - ETA: 0s - loss: 0.3238 - f1_score: 0.8590 - accuracy: 0.8591 - auc: 0.9373

Epoch 00051: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3251 - f1_score: 0.8593 - accuracy: 0.8594 - auc: 0.9369 - val_loss: 0.3202 - val_f1_score: 0.8617 - val_accuracy: 0.8622 - val_auc: 0.9431

Epoch 52/500

50/50 [==============================] - ETA: 0s - loss: 0.3226 - f1_score: 0.8570 - accuracy: 0.8572 - auc: 0.9387

Epoch 00052: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3226 - f1_score: 0.8570 - accuracy: 0.8572 - auc: 0.9387 - val_loss: 0.3121 - val_f1_score: 0.8629 - val_accuracy: 0.8636 - val_auc: 0.9477

Epoch 53/500

50/50 [==============================] - ETA: 0s - loss: 0.3244 - f1_score: 0.8662 - accuracy: 0.8662 - auc: 0.9371

Epoch 00053: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3244 - f1_score: 0.8662 - accuracy: 0.8662 - auc: 0.9371 - val_loss: 0.3380 - val_f1_score: 0.8496 - val_accuracy: 0.8511 - val_auc: 0.9471

Epoch 54/500

49/50 [============================>.] - ETA: 0s - loss: 0.3398 - f1_score: 0.8533 - accuracy: 0.8533 - auc: 0.9308

Epoch 00054: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3400 - f1_score: 0.8534 - accuracy: 0.8534 - auc: 0.9306 - val_loss: 0.3408 - val_f1_score: 0.8438 - val_accuracy: 0.8458 - val_auc: 0.9509

Epoch 55/500

49/50 [============================>.] - ETA: 0s - loss: 0.3203 - f1_score: 0.8597 - accuracy: 0.8600 - auc: 0.9397

Epoch 00055: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3205 - f1_score: 0.8601 - accuracy: 0.8603 - auc: 0.9395 - val_loss: 0.3012 - val_f1_score: 0.8642 - val_accuracy: 0.8648 - val_auc: 0.9534

Epoch 56/500

49/50 [============================>.] - ETA: 0s - loss: 0.3036 - f1_score: 0.8751 - accuracy: 0.8753 - auc: 0.9449

Epoch 00056: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3039 - f1_score: 0.8745 - accuracy: 0.8747 - auc: 0.9447 - val_loss: 0.5120 - val_f1_score: 0.7832 - val_accuracy: 0.7914 - val_auc: 0.9495

Epoch 57/500

49/50 [============================>.] - ETA: 0s - loss: 0.3061 - f1_score: 0.8660 - accuracy: 0.8661 - auc: 0.9414

Epoch 00057: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3046 - f1_score: 0.8677 - accuracy: 0.8678 - auc: 0.9422 - val_loss: 0.4002 - val_f1_score: 0.8194 - val_accuracy: 0.8231 - val_auc: 0.9453

Epoch 58/500

50/50 [==============================] - ETA: 0s - loss: 0.3289 - f1_score: 0.8550 - accuracy: 0.8550 - auc: 0.9337

Epoch 00058: val_accuracy did not improve from 0.87266

50/50 [==============================] - 2s 37ms/step - loss: 0.3289 - f1_score: 0.8550 - accuracy: 0.8550 - auc: 0.9337 - val_loss: 0.4705 - val_f1_score: 0.7998 - val_accuracy: 0.8055 - val_auc: 0.9390

Epoch 59/500

49/50 [============================>.] - ETA: 0s - loss: 0.3060 - f1_score: 0.8705 - accuracy: 0.8705 - auc: 0.9442

Epoch 00059: val_accuracy improved from 0.87266 to 0.87406, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5

50/50 [==============================] - 2s 43ms/step - loss: 0.3067 - f1_score: 0.8706 - accuracy: 0.8706 - auc: 0.9441 - val_loss: 0.2917 - val_f1_score: 0.8736 - val_accuracy: 0.8741 - val_auc: 0.9542

Epoch 60/500

49/50 [============================>.] - ETA: 0s - loss: 0.3260 - f1_score: 0.8539 - accuracy: 0.8540 - auc: 0.9356

Epoch 00060: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.3249 - f1_score: 0.8543 - accuracy: 0.8544 - auc: 0.9360 - val_loss: 0.3193 - val_f1_score: 0.8559 - val_accuracy: 0.8570 - val_auc: 0.9494

Epoch 61/500

49/50 [============================>.] - ETA: 0s - loss: 0.2967 - f1_score: 0.8731 - accuracy: 0.8731 - auc: 0.9472

Epoch 00061: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.2973 - f1_score: 0.8722 - accuracy: 0.8722 - auc: 0.9469 - val_loss: 0.3144 - val_f1_score: 0.8638 - val_accuracy: 0.8647 - val_auc: 0.9510

Epoch 62/500

48/50 [===========================>..] - ETA: 0s - loss: 0.2915 - f1_score: 0.8743 - accuracy: 0.8743 - auc: 0.9479

Epoch 00062: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.2937 - f1_score: 0.8716 - accuracy: 0.8716 - auc: 0.9472 - val_loss: 0.4797 - val_f1_score: 0.7901 - val_accuracy: 0.7966 - val_auc: 0.9354

Epoch 63/500

49/50 [============================>.] - ETA: 0s - loss: 0.3169 - f1_score: 0.8672 - accuracy: 0.8673 - auc: 0.9437

Epoch 00063: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.3195 - f1_score: 0.8664 - accuracy: 0.8666 - auc: 0.9427 - val_loss: 0.4182 - val_f1_score: 0.8207 - val_accuracy: 0.8250 - val_auc: 0.9488

Epoch 64/500

49/50 [============================>.] - ETA: 0s - loss: 0.3048 - f1_score: 0.8712 - accuracy: 0.8712 - auc: 0.9451

Epoch 00064: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.3047 - f1_score: 0.8719 - accuracy: 0.8719 - auc: 0.9451 - val_loss: 0.3465 - val_f1_score: 0.8481 - val_accuracy: 0.8503 - val_auc: 0.9552

Epoch 65/500

49/50 [============================>.] - ETA: 0s - loss: 0.2986 - f1_score: 0.8788 - accuracy: 0.8788 - auc: 0.9458

Epoch 00065: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.2975 - f1_score: 0.8791 - accuracy: 0.8791 - auc: 0.9461 - val_loss: 0.3717 - val_f1_score: 0.8362 - val_accuracy: 0.8384 - val_auc: 0.9448

Epoch 66/500

49/50 [============================>.] - ETA: 0s - loss: 0.3057 - f1_score: 0.8635 - accuracy: 0.8635 - auc: 0.9426

Epoch 00066: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.3072 - f1_score: 0.8628 - accuracy: 0.8628 - auc: 0.9420 - val_loss: 0.4613 - val_f1_score: 0.8087 - val_accuracy: 0.8114 - val_auc: 0.9279

Epoch 67/500

49/50 [============================>.] - ETA: 0s - loss: 0.2989 - f1_score: 0.8737 - accuracy: 0.8737 - auc: 0.9452

Epoch 00067: val_accuracy did not improve from 0.87406

50/50 [==============================] - 2s 37ms/step - loss: 0.2988 - f1_score: 0.8737 - accuracy: 0.8737 - auc: 0.9452 - val_loss: 0.3186 -

val_f1_score: 0.8662 - val_accuracy: 0.8670 - val_auc: 0.9520
Epoch 68/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3211 - f1_score: 0.8642 - accuracy: 0.8642 - auc: 0.9380
Epoch 00068: val_accuracy did not improve from 0.87406
50/50 [==============================] - 2s 37ms/step - loss: 0.3210 - f1_score: 0.8650 - accuracy: 0.8650 - auc: 0.9381 - val_loss: 0.4039 - val_f1_score: 0.8234 - val_accuracy: 0.8267 - val_auc: 0.9387
Epoch 69/500
50/50 [==============================] - ETA: 0s - loss: 0.2851 - f1_score: 0.8739 - accuracy: 0.8741 - auc: 0.9516
Epoch 00069: val_accuracy did not improve from 0.87406
50/50 [==============================] - 2s 37ms/step - loss: 0.2851 - f1_score: 0.8739 - accuracy: 0.8741 - auc: 0.9516 - val_loss: 0.3015 - val_f1_score: 0.8705 - val_accuracy: 0.8714 - val_auc: 0.9569
Epoch 70/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3018 - f1_score: 0.8750 - accuracy: 0.8750 - auc: 0.9461
Epoch 00070: val_accuracy did not improve from 0.87406
50/50 [==============================] - 2s 37ms/step - loss: 0.2998 - f1_score: 0.8759 - accuracy: 0.8759 - auc: 0.9468 - val_loss: 0.3848 - val_f1_score: 0.8275 - val_accuracy: 0.8311 - val_auc: 0.9527
Epoch 71/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2849 - f1_score: 0.8772 - accuracy: 0.8772 - auc: 0.9515
Epoch 00071: val_accuracy improved from 0.87406 to 0.87453, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 44ms/step - loss: 0.2887 - f1_score: 0.8759 - accuracy: 0.8759 - auc: 0.9502 - val_loss: 0.2904 - val_f1_score: 0.8742 - val_accuracy: 0.8745 - val_auc: 0.9516
Epoch 72/500
50/50 [==============================] - ETA: 0s - loss: 0.2973 - f1_score: 0.8716 - accuracy: 0.8719 - auc: 0.9481
Epoch 00072: val_accuracy improved from 0.87453 to 0.87781, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 39ms/step - loss: 0.2973 - f1_score: 0.8716 - accuracy: 0.8719 - auc: 0.9481 - val_loss: 0.2926 - val_f1_score: 0.8773 - val_accuracy: 0.8778 - val_auc: 0.9541
Epoch 73/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2920 - f1_score: 0.8744 - accuracy: 0.8744 - auc: 0.9491
Epoch 00073: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.2945 - f1_score: 0.8734 - accuracy: 0.8734 - auc: 0.9481 - val_loss: 0.4233 - val_f1_score: 0.8134 - val_accuracy: 0.8177 - val_auc: 0.9435
Epoch 74/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2737 - f1_score: 0.8801 - accuracy: 0.8801 - auc: 0.9543
Epoch 00074: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.2717 - f1_score: 0.8816 - accuracy: 0.8816 - auc: 0.9547 - val_loss: 0.3781 - val_f1_score: 0.8354 - val_accuracy: 0.8384 - val_auc: 0.9578
Epoch 75/500
49/50 [=============================>.] - ETA: 0s - loss: 0.3034 - f1_score: 0.8696 - accuracy: 0.8696 - auc: 0.9432
Epoch 00075: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.3015 - f1_score: 0.8712 - accuracy: 0.8712 - auc: 0.9438 - val_loss: 0.3971 - val_f1_score: 0.8329 - val_accuracy: 0.8361 - val_auc: 0.9520
Epoch 76/500
50/50 [==============================] - ETA: 0s - loss: 0.2880 - f1_score: 0.8822 - accuracy: 0.8822 - auc: 0.9510
Epoch 00076: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.2880 - f1_score: 0.8822 - accuracy: 0.8822 - auc: 0.9510 - val_loss: 0.2897 - val_f1_score: 0.8746 - val_accuracy: 0.8748 - val_auc: 0.9516
Epoch 77/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2974 - f1_score: 0.8699 - accuracy: 0.8699 - auc: 0.9474
Epoch 00077: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.2998 - f1_score: 0.8684 - accuracy: 0.8684 - auc: 0.9462 - val_loss: 0.2950 - val_f1_score: 0.8727 - val_accuracy: 0.8736 - val_auc: 0.9606
Epoch 78/500
50/50 [==============================] - ETA: 0s - loss: 0.2809 - f1_score: 0.8803 - accuracy: 0.8803 - auc: 0.9516
Epoch 00078: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.2809 - f1_score: 0.8803 - accuracy: 0.8803 - auc: 0.9516 - val_loss: 0.3015 - val_f1_score: 0.8685 - val_accuracy: 0.8695 - val_auc: 0.9598
Epoch 79/500
50/50 [==============================] - ETA: 0s - loss: 0.3118 - f1_score: 0.8696 - accuracy: 0.8697 - auc: 0.9395
Epoch 00079: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.3118 - f1_score: 0.8696 - accuracy: 0.8697 - auc: 0.9395 - val_loss: 0.2926 - val_f1_score: 0.8717 - val_accuracy: 0.8723 - val_auc: 0.9565
Epoch 80/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2733 - f1_score: 0.8864 - accuracy: 0.8865 - auc: 0.9557
Epoch 00080: val_accuracy did not improve from 0.87781
50/50 [==============================] - 2s 37ms/step - loss: 0.2740 - f1_score: 0.8859 - accuracy: 0.8859 - auc: 0.9555 - val_loss: 0.3131 - val_f1_score: 0.8625 - val_accuracy: 0.8633 - val_auc: 0.9516
Epoch 81/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2739 - f1_score: 0.8858 - accuracy: 0.8858 - auc: 0.9562
Epoch 00081: val_accuracy improved from 0.87781 to 0.88187, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 44ms/step - loss: 0.2739 - f1_score: 0.8856 - accuracy: 0.8856 - auc: 0.9562 - val_loss: 0.2843 - val_f1_score: 0.8816 - val_accuracy: 0.8819 - val_auc: 0.9545
Epoch 82/500
50/50 [==============================] - ETA: 0s - loss: 0.2846 - f1_score: 0.8762 - accuracy: 0.8763 - auc: 0.9500
Epoch 00082: val_accuracy did not improve from 0.88187
50/50 [==============================] - 2s 37ms/step - loss: 0.2846 - f1_score: 0.8762 - accuracy: 0.8763 - auc: 0.9500 - val_loss: 0.3294 - val_f1_score: 0.8591 - val_accuracy: 0.8605 - val_auc: 0.9568
Epoch 83/500
48/50 [=============================>..] - ETA: 0s - loss: 0.2699 - f1_score: 0.8876 - accuracy: 0.8877 - auc: 0.9585
Epoch 00083: val_accuracy did not improve from 0.88187
50/50 [==============================] - 2s 37ms/step - loss: 0.2701 - f1_score: 0.8868 - accuracy: 0.8869 - auc: 0.9583 - val_loss: 0.3225 - val_f1_score: 0.8635 - val_accuracy: 0.8645 - val_auc: 0.9535
Epoch 84/500

50/50 [==============================] - ETA: 0s - loss: 0.2744 - f1_score: 0.8827 - accuracy: 0.8828 - auc: 0.9564
Epoch 00084: val_accuracy did not improve from 0.88187
50/50 [==============================] - 2s 37ms/step - loss: 0.2744 - f1_score: 0.8827 - accuracy: 0.8828 - auc: 0.9564 - val_loss: 0.2863 - val_f1_score: 0.8810 - val_accuracy: 0.8811 - val_auc: 0.9520
Epoch 85/500
50/50 [==============================] - ETA: 0s - loss: 0.2915 - f1_score: 0.8784 - accuracy: 0.8784 - auc: 0.9494
Epoch 00085: val_accuracy did not improve from 0.88187
50/50 [==============================] - 2s 37ms/step - loss: 0.2915 - f1_score: 0.8784 - accuracy: 0.8784 - auc: 0.9494 - val_loss: 0.3797 - val_f1_score: 0.8436 - val_accuracy: 0.8459 - val_auc: 0.9518
Epoch 86/500
50/50 [==============================] - ETA: 0s - loss: 0.2713 - f1_score: 0.8796 - accuracy: 0.8797 - auc: 0.9557
Epoch 00086: val_accuracy improved from 0.88187 to 0.88422, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 42ms/step - loss: 0.2713 - f1_score: 0.8796 - accuracy: 0.8797 - auc: 0.9557 - val_loss: 0.2758 - val_f1_score: 0.8840 - val_accuracy: 0.8842 - val_auc: 0.9560
Epoch 87/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2877 - f1_score: 0.8833 - accuracy: 0.8833 - auc: 0.9519
Epoch 00087: val_accuracy improved from 0.88422 to 0.88578, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 39ms/step - loss: 0.2880 - f1_score: 0.8825 - accuracy: 0.8825 - auc: 0.9518 - val_loss: 0.2647 - val_f1_score: 0.8856 - val_accuracy: 0.8858 - val_auc: 0.9583
Epoch 88/500
50/50 [==============================] - ETA: 0s - loss: 0.2722 - f1_score: 0.8868 - accuracy: 0.8869 - auc: 0.9563
Epoch 00088: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2722 - f1_score: 0.8868 - accuracy: 0.8869 - auc: 0.9563 - val_loss: 0.2880 - val_f1_score: 0.8813 - val_accuracy: 0.8814 - val_auc: 0.9507
Epoch 89/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2591 - f1_score: 0.8925 - accuracy: 0.8925 - auc: 0.9600
Epoch 00089: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2603 - f1_score: 0.8925 - accuracy: 0.8925 - auc: 0.9596 - val_loss: 0.3172 - val_f1_score: 0.8681 - val_accuracy: 0.8691 - val_auc: 0.9553
Epoch 90/500
50/50 [==============================] - ETA: 0s - loss: 0.2847 - f1_score: 0.8797 - accuracy: 0.8797 - auc: 0.9517
Epoch 00090: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2847 - f1_score: 0.8797 - accuracy: 0.8797 - auc: 0.9517 - val_loss: 0.3644 - val_f1_score: 0.8514 - val_accuracy: 0.8534 - val_auc: 0.9582
Epoch 91/500
50/50 [==============================] - ETA: 0s - loss: 0.2722 - f1_score: 0.8875 - accuracy: 0.8875 - auc: 0.9563
Epoch 00091: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2722 - f1_score: 0.8875 - accuracy: 0.8875 - auc: 0.9563 - val_loss: 0.3107 - val_f1_score: 0.8685 - val_accuracy: 0.8697 - val_auc: 0.9609
Epoch 92/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2748 - f1_score: 0.8829 - accuracy: 0.8830 - auc: 0.9545
Epoch 00092: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 38ms/step - loss: 0.2750 - f1_score: 0.8831 - accuracy: 0.8831 - auc: 0.9543 - val_loss: 0.4797 - val_f1_score: 0.7884 - val_accuracy: 0.7955 - val_auc: 0.9444
Epoch 93/500
48/50 [==============================>..] - ETA: 0s - loss: 0.2647 - f1_score: 0.8939 - accuracy: 0.8939 - auc: 0.9585
Epoch 00093: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2647 - f1_score: 0.8937 - accuracy: 0.8938 - auc: 0.9583 - val_loss: 0.3853 - val_f1_score: 0.8291 - val_accuracy: 0.8327 - val_auc: 0.9544
Epoch 94/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2667 - f1_score: 0.8912 - accuracy: 0.8913 - auc: 0.9581
Epoch 00094: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2682 - f1_score: 0.8903 - accuracy: 0.8903 - auc: 0.9574 - val_loss: 0.2817 - val_f1_score: 0.8736 - val_accuracy: 0.8745 - val_auc: 0.9647
Epoch 95/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2793 - f1_score: 0.8813 - accuracy: 0.8814 - auc: 0.9533
Epoch 00095: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2776 - f1_score: 0.8821 - accuracy: 0.8822 - auc: 0.9538 - val_loss: 0.2928 - val_f1_score: 0.8704 - val_accuracy: 0.8712 - val_auc: 0.9591
Epoch 96/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2528 - f1_score: 0.8976 - accuracy: 0.8976 - auc: 0.9605
Epoch 00096: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2519 - f1_score: 0.8978 - accuracy: 0.8978 - auc: 0.9607 - val_loss: 0.3871 - val_f1_score: 0.8313 - val_accuracy: 0.8345 - val_auc: 0.9563
Epoch 97/500
50/50 [==============================] - ETA: 0s - loss: 0.2549 - f1_score: 0.8981 - accuracy: 0.8981 - auc: 0.9608
Epoch 00097: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2549 - f1_score: 0.8981 - accuracy: 0.8981 - auc: 0.9608 - val_loss: 0.3827 - val_f1_score: 0.8342 - val_accuracy: 0.8370 - val_auc: 0.9530
Epoch 98/500
50/50 [==============================] - ETA: 0s - loss: 0.2482 - f1_score: 0.8989 - accuracy: 0.8991 - auc: 0.9629
Epoch 00098: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2482 - f1_score: 0.8989 - accuracy: 0.8991 - auc: 0.9629 - val_loss: 0.2871 - val_f1_score: 0.8815 - val_accuracy: 0.8820 - val_auc: 0.9614
Epoch 99/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2588 - f1_score: 0.8931 - accuracy: 0.8932 - auc: 0.9600
Epoch 00099: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2583 - f1_score: 0.8931 - accuracy: 0.8931 - auc: 0.9601 - val_loss: 0.3332 - val_f1_score: 0.8639 - val_accuracy: 0.8648 - val_auc: 0.9507
Epoch 100/500
49/50 [==============================>.] - ETA: 0s - loss: 0.2577 - f1_score: 0.8935 - accuracy: 0.8938 - auc: 0.9600
Epoch 00100: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2563 - f1_score: 0.8943 - accuracy: 0.8947 - auc: 0.9605 - val_loss: 0.3883 -

val_f1_score: 0.8325 - val_accuracy: 0.8355 - val_auc: 0.9536
Epoch 101/500
50/50 [==============================] - ETA: 0s - loss: 0.2603 - f1_score: 0.8847 - accuracy: 0.8847 - auc: 0.9602
Epoch 00101: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 36ms/step - loss: 0.2603 - f1_score: 0.8847 - accuracy: 0.8847 - auc: 0.9602 - val_loss: 0.2914 - val_f1_score: 0.8774 - val_accuracy: 0.8780 - val_auc: 0.9579
Epoch 102/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2619 - f1_score: 0.8908 - accuracy: 0.8909 - auc: 0.9590
Epoch 00102: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2629 - f1_score: 0.8902 - accuracy: 0.8903 - auc: 0.9586 - val_loss: 0.2594 - val_f1_score: 0.8846 - val_accuracy: 0.8848 - val_auc: 0.9630
Epoch 103/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2911 - f1_score: 0.8743 - accuracy: 0.8744 - auc: 0.9504
Epoch 00103: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2896 - f1_score: 0.8753 - accuracy: 0.8753 - auc: 0.9510 - val_loss: 0.3563 - val_f1_score: 0.8528 - val_accuracy: 0.8545 - val_auc: 0.9518
Epoch 104/500
50/50 [==============================] - ETA: 0s - loss: 0.2720 - f1_score: 0.8872 - accuracy: 0.8872 - auc: 0.9570
Epoch 00104: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2720 - f1_score: 0.8872 - accuracy: 0.8872 - auc: 0.9570 - val_loss: 0.2798 - val_f1_score: 0.8822 - val_accuracy: 0.8827 - val_auc: 0.9603
Epoch 105/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2607 - f1_score: 0.8922 - accuracy: 0.8922 - auc: 0.9594
Epoch 00105: val_accuracy did not improve from 0.88578
50/50 [==============================] - 2s 37ms/step - loss: 0.2601 - f1_score: 0.8931 - accuracy: 0.8931 - auc: 0.9594 - val_loss: 0.3035 - val_f1_score: 0.8744 - val_accuracy: 0.8753 - val_auc: 0.9602
Epoch 106/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2533 - f1_score: 0.8909 - accuracy: 0.8909 - auc: 0.9625
Epoch 00106: val_accuracy improved from 0.88578 to 0.88609, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 43ms/step - loss: 0.2532 - f1_score: 0.8918 - accuracy: 0.8919 - auc: 0.9624 - val_loss: 0.2769 - val_f1_score: 0.8856 - val_accuracy: 0.8861 - val_auc: 0.9635
Epoch 107/500
50/50 [==============================] - ETA: 0s - loss: 0.2635 - f1_score: 0.8900 - accuracy: 0.8900 - auc: 0.9576
Epoch 00107: val_accuracy did not improve from 0.88609
50/50 [==============================] - 2s 36ms/step - loss: 0.2635 - f1_score: 0.8900 - accuracy: 0.8900 - auc: 0.9576 - val_loss: 0.3887 - val_f1_score: 0.8276 - val_accuracy: 0.8308 - val_auc: 0.9513
Epoch 108/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2555 - f1_score: 0.8972 - accuracy: 0.8973 - auc: 0.9606
Epoch 00108: val_accuracy did not improve from 0.88609
50/50 [==============================] - 2s 37ms/step - loss: 0.2547 - f1_score: 0.8980 - accuracy: 0.8981 - auc: 0.9609 - val_loss: 0.4242 - val_f1_score: 0.8320 - val_accuracy: 0.8352 - val_auc: 0.9494
Epoch 109/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2701 - f1_score: 0.8842 - accuracy: 0.8842 - auc: 0.9559
Epoch 00109: val_accuracy did not improve from 0.88609
50/50 [==============================] - 2s 37ms/step - loss: 0.2692 - f1_score: 0.8850 - accuracy: 0.8850 - auc: 0.9562 - val_loss: 0.3343 - val_f1_score: 0.8543 - val_accuracy: 0.8562 - val_auc: 0.9597
Epoch 110/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2561 - f1_score: 0.8928 - accuracy: 0.8929 - auc: 0.9610
Epoch 00110: val_accuracy improved from 0.88609 to 0.88859, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 39ms/step - loss: 0.2561 - f1_score: 0.8931 - accuracy: 0.8931 - auc: 0.9611 - val_loss: 0.2621 - val_f1_score: 0.8884 - val_accuracy: 0.8886 - val_auc: 0.9613
Epoch 111/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2828 - f1_score: 0.8762 - accuracy: 0.8763 - auc: 0.9534
Epoch 00111: val_accuracy did not improve from 0.88859
50/50 [==============================] - 2s 37ms/step - loss: 0.2823 - f1_score: 0.8762 - accuracy: 0.8763 - auc: 0.9540 - val_loss: 0.2897 - val_f1_score: 0.8831 - val_accuracy: 0.8836 - val_auc: 0.9584
Epoch 112/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2619 - f1_score: 0.8890 - accuracy: 0.8890 - auc: 0.9581
Epoch 00112: val_accuracy did not improve from 0.88859
50/50 [==============================] - 2s 37ms/step - loss: 0.2612 - f1_score: 0.8887 - accuracy: 0.8888 - auc: 0.9585 - val_loss: 0.3182 - val_f1_score: 0.8684 - val_accuracy: 0.8694 - val_auc: 0.9577
Epoch 113/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2606 - f1_score: 0.8938 - accuracy: 0.8938 - auc: 0.9597
Epoch 00113: val_accuracy did not improve from 0.88859
50/50 [==============================] - 2s 37ms/step - loss: 0.2622 - f1_score: 0.8937 - accuracy: 0.8938 - auc: 0.9590 - val_loss: 0.2784 - val_f1_score: 0.8800 - val_accuracy: 0.8803 - val_auc: 0.9585
Epoch 114/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2376 - f1_score: 0.9034 - accuracy: 0.9034 - auc: 0.9662
Epoch 00114: val_accuracy improved from 0.88859 to 0.88984, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 42ms/step - loss: 0.2390 - f1_score: 0.9022 - accuracy: 0.9022 - auc: 0.9659 - val_loss: 0.2575 - val_f1_score: 0.8897 - val_accuracy: 0.8898 - val_auc: 0.9620
Epoch 115/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2540 - f1_score: 0.8924 - accuracy: 0.8925 - auc: 0.9595
Epoch 00115: val_accuracy did not improve from 0.88984
50/50 [==============================] - 2s 37ms/step - loss: 0.2548 - f1_score: 0.8917 - accuracy: 0.8919 - auc: 0.9595 - val_loss: 0.3710 - val_f1_score: 0.8466 - val_accuracy: 0.8483 - val_auc: 0.9482
Epoch 116/500
50/50 [==============================] - ETA: 0s - loss: 0.2429 - f1_score: 0.9016 - accuracy: 0.9016 - auc: 0.9642
Epoch 00116: val_accuracy did not improve from 0.88984
50/50 [==============================] - 2s 37ms/step - loss: 0.2429 - f1_score: 0.9016 - accuracy: 0.9016 - auc: 0.9642 - val_loss: 0.3829 - val_f1_score: 0.8405 - val_accuracy: 0.8428 - val_auc: 0.9531
Epoch 117/500
49/50 [   ] - ETA: 0s - loss: 0.2410 - f1_score: 0.8960 - accuracy: 0.8960 - auc: 0.9647

49/50 [===========================>.] - ETA: 0s - loss: 0.2410 - f1_score: 0.8960 - accuracy: 0.8960 - auc: 0.9647
Epoch 00117: val_accuracy improved from 0.88984 to 0.89109, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 38ms/step - loss: 0.2418 - f1_score: 0.8959 - accuracy: 0.8959 - auc: 0.9645 - val_loss: 0.2692 - val_f1_score: 0.8908 - val_accuracy: 0.8911 - val_auc: 0.9621
Epoch 118/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2722 - f1_score: 0.8890 - accuracy: 0.8890 - auc: 0.9547
Epoch 00118: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2712 - f1_score: 0.8897 - accuracy: 0.8897 - auc: 0.9552 - val_loss: 0.2682 - val_f1_score: 0.8903 - val_accuracy: 0.8903 - val_auc: 0.9589
Epoch 119/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2613 - f1_score: 0.8944 - accuracy: 0.8945 - auc: 0.9584
Epoch 00119: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2586 - f1_score: 0.8953 - accuracy: 0.8953 - auc: 0.9591 - val_loss: 0.3553 - val_f1_score: 0.8543 - val_accuracy: 0.8559 - val_auc: 0.9543
Epoch 120/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2556 - f1_score: 0.8916 - accuracy: 0.8916 - auc: 0.9605
Epoch 00120: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2563 - f1_score: 0.8915 - accuracy: 0.8916 - auc: 0.9605 - val_loss: 0.2880 - val_f1_score: 0.8718 - val_accuracy: 0.8728 - val_auc: 0.9646
Epoch 121/500
50/50 [==============================] - ETA: 0s - loss: 0.2536 - f1_score: 0.8941 - accuracy: 0.8941 - auc: 0.9629
Epoch 00121: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2536 - f1_score: 0.8941 - accuracy: 0.8941 - auc: 0.9629 - val_loss: 0.3434 - val_f1_score: 0.8567 - val_accuracy: 0.8584 - val_auc: 0.9612
Epoch 122/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2268 - f1_score: 0.9100 - accuracy: 0.9101 - auc: 0.9687
Epoch 00122: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2267 - f1_score: 0.9099 - accuracy: 0.9100 - auc: 0.9687 - val_loss: 0.2851 - val_f1_score: 0.8775 - val_accuracy: 0.8780 - val_auc: 0.9596
Epoch 123/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2375 - f1_score: 0.8977 - accuracy: 0.8978 - auc: 0.9660
Epoch 00123: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2429 - f1_score: 0.8962 - accuracy: 0.8963 - auc: 0.9642 - val_loss: 0.2898 - val_f1_score: 0.8774 - val_accuracy: 0.8781 - val_auc: 0.9606
Epoch 124/500
50/50 [==============================] - ETA: 0s - loss: 0.2346 - f1_score: 0.9044 - accuracy: 0.9044 - auc: 0.9679
Epoch 00124: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2346 - f1_score: 0.9044 - accuracy: 0.9044 - auc: 0.9679 - val_loss: 0.3081 - val_f1_score: 0.8737 - val_accuracy: 0.8745 - val_auc: 0.9572
Epoch 125/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2463 - f1_score: 0.8951 - accuracy: 0.8951 - auc: 0.9630
Epoch 00125: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2470 - f1_score: 0.8950 - accuracy: 0.8950 - auc: 0.9628 - val_loss: 0.2855 - val_f1_score: 0.8781 - val_accuracy: 0.8784 - val_auc: 0.9559
Epoch 126/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2528 - f1_score: 0.8941 - accuracy: 0.8941 - auc: 0.9630
Epoch 00126: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2532 - f1_score: 0.8934 - accuracy: 0.8934 - auc: 0.9630 - val_loss: 0.3724 - val_f1_score: 0.8432 - val_accuracy: 0.8458 - val_auc: 0.9567
Epoch 127/500
50/50 [==============================] - ETA: 0s - loss: 0.2604 - f1_score: 0.8909 - accuracy: 0.8909 - auc: 0.9589
Epoch 00127: val_accuracy did not improve from 0.89109
50/50 [==============================] - 2s 37ms/step - loss: 0.2604 - f1_score: 0.8909 - accuracy: 0.8909 - auc: 0.9589 - val_loss: 0.3134 - val_f1_score: 0.8701 - val_accuracy: 0.8712 - val_auc: 0.9598
Epoch 128/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2367 - f1_score: 0.9037 - accuracy: 0.9037 - auc: 0.9656
Epoch 00128: val_accuracy improved from 0.89109 to 0.89469, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 44ms/step - loss: 0.2393 - f1_score: 0.9012 - accuracy: 0.9013 - auc: 0.9649 - val_loss: 0.2629 - val_f1_score: 0.8946 - val_accuracy: 0.8947 - val_auc: 0.9614
Epoch 129/500
50/50 [==============================] - ETA: 0s - loss: 0.2130 - f1_score: 0.9109 - accuracy: 0.9109 - auc: 0.9728
Epoch 00129: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2130 - f1_score: 0.9109 - accuracy: 0.9109 - auc: 0.9728 - val_loss: 0.2556 - val_f1_score: 0.8907 - val_accuracy: 0.8911 - val_auc: 0.9683
Epoch 130/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2399 - f1_score: 0.9017 - accuracy: 0.9018 - auc: 0.9645
Epoch 00130: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2393 - f1_score: 0.9018 - accuracy: 0.9019 - auc: 0.9646 - val_loss: 0.2610 - val_f1_score: 0.8886 - val_accuracy: 0.8889 - val_auc: 0.9663
Epoch 131/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2497 - f1_score: 0.8997 - accuracy: 0.8997 - auc: 0.9643
Epoch 00131: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2500 - f1_score: 0.8988 - accuracy: 0.8988 - auc: 0.9643 - val_loss: 0.2774 - val_f1_score: 0.8843 - val_accuracy: 0.8848 - val_auc: 0.9643
Epoch 132/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2280 - f1_score: 0.9062 - accuracy: 0.9062 - auc: 0.9690
Epoch 00132: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2306 - f1_score: 0.9041 - accuracy: 0.9041 - auc: 0.9682 - val_loss: 0.3227 - val_f1_score: 0.8671 - val_accuracy: 0.8686 - val_auc: 0.9641
Epoch 133/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2247 - f1_score: 0.9082 - accuracy: 0.9082 - auc: 0.9696
Epoch 00133: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2249 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9697 - val_loss: 0.3713 -

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val_f1_score: 0.8506 - val_accuracy: 0.8530 - val_auc: 0.9634
Epoch 134/500
50/50 [==============================] - ETA: 0s - loss: 0.2487 - f1_score: 0.8930 - accuracy: 0.8931 - auc: 0.9614
Epoch 00134: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2487 - f1_score: 0.8930 - accuracy: 0.8931 - auc: 0.9614 - val_loss: 0.2622 -
val_f1_score: 0.8867 - val_accuracy: 0.8870 - val_auc: 0.9630
Epoch 135/500
48/50 [============================>..] - ETA: 0s - loss: 0.2523 - f1_score: 0.8978 - accuracy: 0.8978 - auc: 0.9614
Epoch 00135: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 36ms/step - loss: 0.2503 - f1_score: 0.8972 - accuracy: 0.8972 - auc: 0.9620 - val_loss: 0.2694 -
val_f1_score: 0.8915 - val_accuracy: 0.8919 - val_auc: 0.9639
Epoch 136/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2408 - f1_score: 0.9017 - accuracy: 0.9018 - auc: 0.9646
Epoch 00136: val_accuracy did not improve from 0.89469
50/50 [==============================] - 2s 37ms/step - loss: 0.2400 - f1_score: 0.9025 - accuracy: 0.9025 - auc: 0.9648 - val_loss: 0.6946 -
val_f1_score: 0.7631 - val_accuracy: 0.7727 - val_auc: 0.9292
Epoch 137/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2349 - f1_score: 0.9043 - accuracy: 0.9043 - auc: 0.9687
Epoch 00137: val_accuracy improved from 0.89469 to 0.89719, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 42ms/step - loss: 0.2354 - f1_score: 0.9041 - accuracy: 0.9041 - auc: 0.9685 - val_loss: 0.2510 -
val_f1_score: 0.8971 - val_accuracy: 0.8972 - val_auc: 0.9644
Epoch 138/500
50/50 [==============================] - ETA: 0s - loss: 0.2275 - f1_score: 0.9062 - accuracy: 0.9062 - auc: 0.9676
Epoch 00138: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2275 - f1_score: 0.9062 - accuracy: 0.9062 - auc: 0.9676 - val_loss: 0.2578 -
val_f1_score: 0.8926 - val_accuracy: 0.8928 - val_auc: 0.9644
Epoch 139/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2286 - f1_score: 0.9031 - accuracy: 0.9031 - auc: 0.9691
Epoch 00139: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2268 - f1_score: 0.9041 - accuracy: 0.9041 - auc: 0.9695 - val_loss: 0.3137 -
val_f1_score: 0.8705 - val_accuracy: 0.8717 - val_auc: 0.9643
Epoch 140/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2269 - f1_score: 0.9087 - accuracy: 0.9088 - auc: 0.9701
Epoch 00140: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2253 - f1_score: 0.9093 - accuracy: 0.9094 - auc: 0.9705 - val_loss: 0.3302 -
val_f1_score: 0.8608 - val_accuracy: 0.8623 - val_auc: 0.9610
Epoch 141/500
50/50 [==============================] - ETA: 0s - loss: 0.2260 - f1_score: 0.9090 - accuracy: 0.9091 - auc: 0.9698
Epoch 00141: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2260 - f1_score: 0.9090 - accuracy: 0.9091 - auc: 0.9698 - val_loss: 0.2518 -
val_f1_score: 0.8960 - val_accuracy: 0.8963 - val_auc: 0.9682
Epoch 142/500
48/50 [============================>..] - ETA: 0s - loss: 0.2421 - f1_score: 0.9061 - accuracy: 0.9062 - auc: 0.9650
Epoch 00142: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2422 - f1_score: 0.9065 - accuracy: 0.9066 - auc: 0.9653 - val_loss: 0.2655 -
val_f1_score: 0.8900 - val_accuracy: 0.8906 - val_auc: 0.9689
Epoch 143/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2416 - f1_score: 0.8979 - accuracy: 0.8980 - auc: 0.9648
Epoch 00143: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2393 - f1_score: 0.8993 - accuracy: 0.8994 - auc: 0.9654 - val_loss: 0.2828 -
val_f1_score: 0.8859 - val_accuracy: 0.8866 - val_auc: 0.9652
Epoch 144/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2456 - f1_score: 0.8970 - accuracy: 0.8970 - auc: 0.9650
Epoch 00144: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2462 - f1_score: 0.8959 - accuracy: 0.8959 - auc: 0.9650 - val_loss: 0.2500 -
val_f1_score: 0.8954 - val_accuracy: 0.8958 - val_auc: 0.9683
Epoch 145/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2194 - f1_score: 0.9078 - accuracy: 0.9078 - auc: 0.9711
Epoch 00145: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2180 - f1_score: 0.9087 - accuracy: 0.9087 - auc: 0.9715 - val_loss: 0.3316 -
val_f1_score: 0.8624 - val_accuracy: 0.8639 - val_auc: 0.9637
Epoch 146/500
48/50 [============================>..] - ETA: 0s - loss: 0.2190 - f1_score: 0.9079 - accuracy: 0.9079 - auc: 0.9725
Epoch 00146: val_accuracy did not improve from 0.89719
50/50 [==============================] - 2s 37ms/step - loss: 0.2205 - f1_score: 0.9078 - accuracy: 0.9078 - auc: 0.9721 - val_loss: 0.3528 -
val_f1_score: 0.8623 - val_accuracy: 0.8639 - val_auc: 0.9617
Epoch 147/500
50/50 [==============================] - ETA: 0s - loss: 0.2231 - f1_score: 0.9106 - accuracy: 0.9106 - auc: 0.9708
Epoch 00147: val_accuracy improved from 0.89719 to 0.90188, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 43ms/step - loss: 0.2231 - f1_score: 0.9106 - accuracy: 0.9106 - auc: 0.9708 - val_loss: 0.2388 -
val_f1_score: 0.9018 - val_accuracy: 0.9019 - val_auc: 0.9670
Epoch 148/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2618 - f1_score: 0.8890 - accuracy: 0.8890 - auc: 0.9601
Epoch 00148: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2602 - f1_score: 0.8900 - accuracy: 0.8900 - auc: 0.9607 - val_loss: 0.3060 -
val_f1_score: 0.8782 - val_accuracy: 0.8792 - val_auc: 0.9663
Epoch 149/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2164 - f1_score: 0.9117 - accuracy: 0.9117 - auc: 0.9713
Epoch 00149: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2173 - f1_score: 0.9116 - accuracy: 0.9116 - auc: 0.9710 - val_loss: 0.2645 -
val_f1_score: 0.8976 - val_accuracy: 0.8980 - val_auc: 0.9677
Epoch 150/500
50/50 [                              ] - ETA: 0s - loss: 0.2176 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9709
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50/50 [==============================] - ETA: 0s - loss: 0.2176 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9709
Epoch 00150: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2176 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9709 - val_loss: 0.2990 - val_f1_score: 0.8800 - val_accuracy: 0.8808 - val_auc: 0.9673
Epoch 151/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2338 - f1_score: 0.9085 - accuracy: 0.9085 - auc: 0.9669
Epoch 00151: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2347 - f1_score: 0.9078 - accuracy: 0.9078 - auc: 0.9667 - val_loss: 0.3479 - val_f1_score: 0.8658 - val_accuracy: 0.8673 - val_auc: 0.9660
Epoch 152/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2374 - f1_score: 0.9046 - accuracy: 0.9047 - auc: 0.9666
Epoch 00152: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2372 - f1_score: 0.9050 - accuracy: 0.9050 - auc: 0.9666 - val_loss: 0.3348 - val_f1_score: 0.8700 - val_accuracy: 0.8712 - val_auc: 0.9645
Epoch 153/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2248 - f1_score: 0.9082 - accuracy: 0.9082 - auc: 0.9705
Epoch 00153: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2256 - f1_score: 0.9081 - accuracy: 0.9081 - auc: 0.9702 - val_loss: 0.3014 - val_f1_score: 0.8719 - val_accuracy: 0.8731 - val_auc: 0.9693
Epoch 154/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2188 - f1_score: 0.9078 - accuracy: 0.9078 - auc: 0.9711
Epoch 00154: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2204 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9707 - val_loss: 0.2803 - val_f1_score: 0.8835 - val_accuracy: 0.8841 - val_auc: 0.9653
Epoch 155/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2160 - f1_score: 0.9110 - accuracy: 0.9110 - auc: 0.9728
Epoch 00155: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2153 - f1_score: 0.9112 - accuracy: 0.9112 - auc: 0.9730 - val_loss: 0.2671 - val_f1_score: 0.8846 - val_accuracy: 0.8852 - val_auc: 0.9672
Epoch 156/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2337 - f1_score: 0.9018 - accuracy: 0.9018 - auc: 0.9686
Epoch 00156: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2350 - f1_score: 0.9003 - accuracy: 0.9003 - auc: 0.9681 - val_loss: 0.2962 - val_f1_score: 0.8759 - val_accuracy: 0.8769 - val_auc: 0.9679
Epoch 157/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2275 - f1_score: 0.9053 - accuracy: 0.9053 - auc: 0.9691
Epoch 00157: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2260 - f1_score: 0.9059 - accuracy: 0.9059 - auc: 0.9696 - val_loss: 0.2865 - val_f1_score: 0.8783 - val_accuracy: 0.8791 - val_auc: 0.9638
Epoch 158/500
50/50 [==============================] - ETA: 0s - loss: 0.2132 - f1_score: 0.9106 - accuracy: 0.9106 - auc: 0.9722
Epoch 00158: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2132 - f1_score: 0.9106 - accuracy: 0.9106 - auc: 0.9722 - val_loss: 0.2805 - val_f1_score: 0.8843 - val_accuracy: 0.8848 - val_auc: 0.9647
Epoch 159/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2348 - f1_score: 0.9047 - accuracy: 0.9047 - auc: 0.9678
Epoch 00159: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2329 - f1_score: 0.9053 - accuracy: 0.9053 - auc: 0.9683 - val_loss: 0.2807 - val_f1_score: 0.8844 - val_accuracy: 0.8852 - val_auc: 0.9670
Epoch 160/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2423 - f1_score: 0.9023 - accuracy: 0.9024 - auc: 0.9659
Epoch 00160: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2434 - f1_score: 0.9021 - accuracy: 0.9022 - auc: 0.9656 - val_loss: 0.2525 - val_f1_score: 0.9001 - val_accuracy: 0.9003 - val_auc: 0.9679
Epoch 161/500
50/50 [==============================] - ETA: 0s - loss: 0.2158 - f1_score: 0.9040 - accuracy: 0.9041 - auc: 0.9721
Epoch 00161: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2158 - f1_score: 0.9040 - accuracy: 0.9041 - auc: 0.9721 - val_loss: 0.3690 - val_f1_score: 0.8481 - val_accuracy: 0.8502 - val_auc: 0.9566
Epoch 162/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2189 - f1_score: 0.9152 - accuracy: 0.9152 - auc: 0.9719
Epoch 00162: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2186 - f1_score: 0.9156 - accuracy: 0.9156 - auc: 0.9719 - val_loss: 0.3392 - val_f1_score: 0.8699 - val_accuracy: 0.8712 - val_auc: 0.9667
Epoch 163/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2207 - f1_score: 0.9018 - accuracy: 0.9018 - auc: 0.9706
Epoch 00163: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2194 - f1_score: 0.9022 - accuracy: 0.9022 - auc: 0.9711 - val_loss: 0.3103 - val_f1_score: 0.8729 - val_accuracy: 0.8741 - val_auc: 0.9661
Epoch 164/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2021 - f1_score: 0.9180 - accuracy: 0.9180 - auc: 0.9742
Epoch 00164: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2024 - f1_score: 0.9169 - accuracy: 0.9169 - auc: 0.9742 - val_loss: 0.2555 - val_f1_score: 0.8974 - val_accuracy: 0.8977 - val_auc: 0.9671
Epoch 165/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2166 - f1_score: 0.9133 - accuracy: 0.9133 - auc: 0.9732
Epoch 00165: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2168 - f1_score: 0.9128 - accuracy: 0.9128 - auc: 0.9731 - val_loss: 0.2953 - val_f1_score: 0.8842 - val_accuracy: 0.8847 - val_auc: 0.9633
Epoch 166/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2189 - f1_score: 0.9136 - accuracy: 0.9136 - auc: 0.9708
Epoch 00166: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 38ms/step - loss: 0.2214 - f1_score: 0.9128 - accuracy: 0.9128 - auc: 0.9700 - val_loss: 0.2851 -

val_f1_score: 0.8795 - val_accuracy: 0.8803 - val_auc: 0.9666
Epoch 167/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2233 - f1_score: 0.9056 - accuracy: 0.9056 - auc: 0.9703
Epoch 00167: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 36ms/step - loss: 0.2263 - f1_score: 0.9031 - accuracy: 0.9031 - auc: 0.9695 - val_loss: 0.2583 - val_f1_score: 0.8952 - val_accuracy: 0.8955 - val_auc: 0.9674
Epoch 168/500
50/50 [==============================] - ETA: 0s - loss: 0.2192 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9715
Epoch 00168: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2192 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9715 - val_loss: 0.3144 - val_f1_score: 0.8711 - val_accuracy: 0.8722 - val_auc: 0.9655
Epoch 169/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2078 - f1_score: 0.9145 - accuracy: 0.9145 - auc: 0.9747
Epoch 00169: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2071 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9747 - val_loss: 0.3581 - val_f1_score: 0.8643 - val_accuracy: 0.8659 - val_auc: 0.9654
Epoch 170/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2182 - f1_score: 0.9101 - accuracy: 0.9101 - auc: 0.9714
Epoch 00170: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2157 - f1_score: 0.9119 - accuracy: 0.9119 - auc: 0.9719 - val_loss: 0.2690 - val_f1_score: 0.8924 - val_accuracy: 0.8928 - val_auc: 0.9678
Epoch 171/500
50/50 [==============================] - ETA: 0s - loss: 0.2297 - f1_score: 0.9078 - accuracy: 0.9078 - auc: 0.9675
Epoch 00171: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2297 - f1_score: 0.9078 - accuracy: 0.9078 - auc: 0.9675 - val_loss: 0.3268 - val_f1_score: 0.8651 - val_accuracy: 0.8662 - val_auc: 0.9600
Epoch 172/500
50/50 [==============================] - ETA: 0s - loss: 0.1979 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9766
Epoch 00172: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.1979 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9766 - val_loss: 0.2642 - val_f1_score: 0.8912 - val_accuracy: 0.8916 - val_auc: 0.9660
Epoch 173/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2175 - f1_score: 0.9157 - accuracy: 0.9157 - auc: 0.9723
Epoch 00173: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2155 - f1_score: 0.9172 - accuracy: 0.9172 - auc: 0.9727 - val_loss: 0.2692 - val_f1_score: 0.8903 - val_accuracy: 0.8908 - val_auc: 0.9675
Epoch 174/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2197 - f1_score: 0.9056 - accuracy: 0.9056 - auc: 0.9722
Epoch 00174: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2216 - f1_score: 0.9041 - accuracy: 0.9041 - auc: 0.9716 - val_loss: 0.3038 - val_f1_score: 0.8766 - val_accuracy: 0.8777 - val_auc: 0.9681
Epoch 175/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1940 - f1_score: 0.9227 - accuracy: 0.9228 - auc: 0.9775
Epoch 00175: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.1942 - f1_score: 0.9224 - accuracy: 0.9225 - auc: 0.9775 - val_loss: 0.2843 - val_f1_score: 0.8881 - val_accuracy: 0.8888 - val_auc: 0.9694
Epoch 176/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2158 - f1_score: 0.9114 - accuracy: 0.9115 - auc: 0.9729
Epoch 00176: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2157 - f1_score: 0.9103 - accuracy: 0.9103 - auc: 0.9730 - val_loss: 0.3505 - val_f1_score: 0.8628 - val_accuracy: 0.8644 - val_auc: 0.9619
Epoch 177/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1827 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9802
Epoch 00177: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.1816 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9804 - val_loss: 0.3199 - val_f1_score: 0.8697 - val_accuracy: 0.8711 - val_auc: 0.9706
Epoch 178/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2046 - f1_score: 0.9212 - accuracy: 0.9212 - auc: 0.9759
Epoch 00178: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2055 - f1_score: 0.9212 - accuracy: 0.9212 - auc: 0.9756 - val_loss: 0.2708 - val_f1_score: 0.8880 - val_accuracy: 0.8886 - val_auc: 0.9686
Epoch 179/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2141 - f1_score: 0.9110 - accuracy: 0.9110 - auc: 0.9724
Epoch 00179: val_accuracy did not improve from 0.90188
50/50 [==============================] - 2s 37ms/step - loss: 0.2138 - f1_score: 0.9112 - accuracy: 0.9112 - auc: 0.9724 - val_loss: 0.4259 - val_f1_score: 0.8404 - val_accuracy: 0.8434 - val_auc: 0.9623
Epoch 180/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2014 - f1_score: 0.9174 - accuracy: 0.9174 - auc: 0.9759
Epoch 00180: val_accuracy improved from 0.90188 to 0.90531, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 43ms/step - loss: 0.2015 - f1_score: 0.9175 - accuracy: 0.9175 - auc: 0.9759 - val_loss: 0.2348 - val_f1_score: 0.9053 - val_accuracy: 0.9053 - val_auc: 0.9687
Epoch 181/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2219 - f1_score: 0.9080 - accuracy: 0.9082 - auc: 0.9720
Epoch 00181: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 39ms/step - loss: 0.2213 - f1_score: 0.9080 - accuracy: 0.9081 - auc: 0.9722 - val_loss: 0.2876 - val_f1_score: 0.8865 - val_accuracy: 0.8872 - val_auc: 0.9666
Epoch 182/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2059 - f1_score: 0.9168 - accuracy: 0.9168 - auc: 0.9741
Epoch 00182: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 41ms/step - loss: 0.2044 - f1_score: 0.9166 - accuracy: 0.9166 - auc: 0.9745 - val_loss: 0.2992 - val_f1_score: 0.8822 - val_accuracy: 0.8830 - val_auc: 0.9686
Epoch 183/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1991 - f1_score: 0.9200 - accuracy: 0.9200 - auc: 0.9762

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49/50 [===========================>.] - ETA: 0s - loss: 0.1991 - f1_score: 0.9200 - accuracy: 0.9200 - auc: 0.9762
Epoch 00183: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 41ms/step - loss: 0.2001 - f1_score: 0.9194 - accuracy: 0.9194 - auc: 0.9759 - val_loss: 0.3913 -
val_f1_score: 0.8522 - val_accuracy: 0.8544 - val_auc: 0.9611
Epoch 184/500
48/50 [===========================>..] - ETA: 0s - loss: 0.2169 - f1_score: 0.9102 - accuracy: 0.9102 - auc: 0.9735
Epoch 00184: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2174 - f1_score: 0.9097 - accuracy: 0.9097 - auc: 0.9732 - val_loss: 0.2488 -
val_f1_score: 0.9002 - val_accuracy: 0.9003 - val_auc: 0.9668
Epoch 185/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1872 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9789
Epoch 00185: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1867 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9791 - val_loss: 0.4171 -
val_f1_score: 0.8420 - val_accuracy: 0.8448 - val_auc: 0.9637
Epoch 186/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1860 - f1_score: 0.9193 - accuracy: 0.9193 - auc: 0.9794
Epoch 00186: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1855 - f1_score: 0.9194 - accuracy: 0.9194 - auc: 0.9796 - val_loss: 0.2536 -
val_f1_score: 0.9006 - val_accuracy: 0.9008 - val_auc: 0.9695
Epoch 187/500
50/50 [==============================] - ETA: 0s - loss: 0.1975 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9773
Epoch 00187: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1975 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9773 - val_loss: 0.2833 -
val_f1_score: 0.8867 - val_accuracy: 0.8873 - val_auc: 0.9690
Epoch 188/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2197 - f1_score: 0.9123 - accuracy: 0.9123 - auc: 0.9720
Epoch 00188: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2197 - f1_score: 0.9118 - accuracy: 0.9119 - auc: 0.9719 - val_loss: 0.2953 -
val_f1_score: 0.8820 - val_accuracy: 0.8828 - val_auc: 0.9673
Epoch 189/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2050 - f1_score: 0.9167 - accuracy: 0.9168 - auc: 0.9756
Epoch 00189: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2066 - f1_score: 0.9169 - accuracy: 0.9169 - auc: 0.9752 - val_loss: 0.3914 -
val_f1_score: 0.8601 - val_accuracy: 0.8619 - val_auc: 0.9641
Epoch 190/500
50/50 [==============================] - ETA: 0s - loss: 0.2120 - f1_score: 0.9175 - accuracy: 0.9175 - auc: 0.9731
Epoch 00190: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 39ms/step - loss: 0.2120 - f1_score: 0.9175 - accuracy: 0.9175 - auc: 0.9731 - val_loss: 0.3216 -
val_f1_score: 0.8727 - val_accuracy: 0.8739 - val_auc: 0.9671
Epoch 191/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1944 - f1_score: 0.9180 - accuracy: 0.9180 - auc: 0.9789
Epoch 00191: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 40ms/step - loss: 0.1952 - f1_score: 0.9178 - accuracy: 0.9178 - auc: 0.9784 - val_loss: 0.2915 -
val_f1_score: 0.8859 - val_accuracy: 0.8866 - val_auc: 0.9684
Epoch 192/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1774 - f1_score: 0.9281 - accuracy: 0.9283 - auc: 0.9817
Epoch 00192: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 40ms/step - loss: 0.1806 - f1_score: 0.9276 - accuracy: 0.9278 - auc: 0.9812 - val_loss: 0.2722 -
val_f1_score: 0.8925 - val_accuracy: 0.8930 - val_auc: 0.9690
Epoch 193/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1816 - f1_score: 0.9298 - accuracy: 0.9298 - auc: 0.9801
Epoch 00193: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 40ms/step - loss: 0.1814 - f1_score: 0.9287 - accuracy: 0.9287 - auc: 0.9801 - val_loss: 0.3361 -
val_f1_score: 0.8712 - val_accuracy: 0.8725 - val_auc: 0.9699
Epoch 194/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1887 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9779
Epoch 00194: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 40ms/step - loss: 0.1877 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9782 - val_loss: 0.2693 -
val_f1_score: 0.9003 - val_accuracy: 0.9006 - val_auc: 0.9696
Epoch 195/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1779 - f1_score: 0.9200 - accuracy: 0.9200 - auc: 0.9807
Epoch 00195: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1780 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9806 - val_loss: 0.3012 -
val_f1_score: 0.8861 - val_accuracy: 0.8869 - val_auc: 0.9701
Epoch 196/500
50/50 [==============================] - ETA: 0s - loss: 0.2057 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9741
Epoch 00196: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2057 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9741 - val_loss: 0.3151 -
val_f1_score: 0.8822 - val_accuracy: 0.8831 - val_auc: 0.9720
Epoch 197/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2048 - f1_score: 0.9180 - accuracy: 0.9180 - auc: 0.9747
Epoch 00197: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2050 - f1_score: 0.9181 - accuracy: 0.9181 - auc: 0.9747 - val_loss: 0.3383 -
val_f1_score: 0.8658 - val_accuracy: 0.8672 - val_auc: 0.9635
Epoch 198/500
50/50 [==============================] - ETA: 0s - loss: 0.2123 - f1_score: 0.9103 - accuracy: 0.9103 - auc: 0.9726
Epoch 00198: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2123 - f1_score: 0.9103 - accuracy: 0.9103 - auc: 0.9726 - val_loss: 0.2424 -
val_f1_score: 0.8995 - val_accuracy: 0.8995 - val_auc: 0.9681
Epoch 199/500
49/50 [===========================>.] - ETA: 0s - loss: 0.2044 - f1_score: 0.9177 - accuracy: 0.9177 - auc: 0.9752
Epoch 00199: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2024 - f1_score: 0.9187 - accuracy: 0.9187 - auc: 0.9756 - val_loss: 0.2960 -
```

val_f1_score: 0.8827 - val_accuracy: 0.8836 - val_auc: 0.9703
Epoch 200/500
50/50 [==============================] - ETA: 0s - loss: 0.2067 - f1_score: 0.9190 - accuracy: 0.9191 - auc: 0.9745
Epoch 00200: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2067 - f1_score: 0.9190 - accuracy: 0.9191 - auc: 0.9745 - val_loss: 0.3806 - val_f1_score: 0.8506 - val_accuracy: 0.8531 - val_auc: 0.9694
Epoch 201/500
50/50 [==============================] - ETA: 0s - loss: 0.1977 - f1_score: 0.9178 - accuracy: 0.9178 - auc: 0.9762
Epoch 00201: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1977 - f1_score: 0.9178 - accuracy: 0.9178 - auc: 0.9762 - val_loss: 0.2697 - val_f1_score: 0.8874 - val_accuracy: 0.8880 - val_auc: 0.9693
Epoch 202/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1653 - f1_score: 0.9273 - accuracy: 0.9273 - auc: 0.9843
Epoch 00202: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1660 - f1_score: 0.9269 - accuracy: 0.9269 - auc: 0.9842 - val_loss: 0.3027 - val_f1_score: 0.8880 - val_accuracy: 0.8886 - val_auc: 0.9688
Epoch 203/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1918 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9789
Epoch 00203: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1931 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9785 - val_loss: 0.3146 - val_f1_score: 0.8757 - val_accuracy: 0.8767 - val_auc: 0.9683
Epoch 204/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1723 - f1_score: 0.9298 - accuracy: 0.9298 - auc: 0.9824
Epoch 00204: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1714 - f1_score: 0.9306 - accuracy: 0.9306 - auc: 0.9827 - val_loss: 0.4099 - val_f1_score: 0.8477 - val_accuracy: 0.8500 - val_auc: 0.9579
Epoch 205/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1946 - f1_score: 0.9225 - accuracy: 0.9225 - auc: 0.9768
Epoch 00205: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1936 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9771 - val_loss: 0.4197 - val_f1_score: 0.8308 - val_accuracy: 0.8344 - val_auc: 0.9599
Epoch 206/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1911 - f1_score: 0.9257 - accuracy: 0.9257 - auc: 0.9782
Epoch 00206: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1939 - f1_score: 0.9247 - accuracy: 0.9247 - auc: 0.9776 - val_loss: 0.3029 - val_f1_score: 0.8818 - val_accuracy: 0.8827 - val_auc: 0.9670
Epoch 207/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1882 - f1_score: 0.9316 - accuracy: 0.9316 - auc: 0.9777
Epoch 00207: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1874 - f1_score: 0.9318 - accuracy: 0.9319 - auc: 0.9781 - val_loss: 0.3395 - val_f1_score: 0.8714 - val_accuracy: 0.8727 - val_auc: 0.9676
Epoch 208/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2080 - f1_score: 0.9133 - accuracy: 0.9133 - auc: 0.9741
Epoch 00208: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.2075 - f1_score: 0.9137 - accuracy: 0.9137 - auc: 0.9743 - val_loss: 0.2895 - val_f1_score: 0.8891 - val_accuracy: 0.8895 - val_auc: 0.9641
Epoch 209/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1814 - f1_score: 0.9244 - accuracy: 0.9244 - auc: 0.9806
Epoch 00209: val_accuracy did not improve from 0.90531
50/50 [==============================] - 2s 37ms/step - loss: 0.1798 - f1_score: 0.9253 - accuracy: 0.9253 - auc: 0.9810 - val_loss: 0.2650 - val_f1_score: 0.8984 - val_accuracy: 0.8986 - val_auc: 0.9672
Epoch 210/500
50/50 [==============================] - ETA: 0s - loss: 0.1896 - f1_score: 0.9181 - accuracy: 0.9181 - auc: 0.9772
Epoch 00210: val_accuracy improved from 0.90531 to 0.90938, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 42ms/step - loss: 0.1896 - f1_score: 0.9181 - accuracy: 0.9181 - auc: 0.9772 - val_loss: 0.2197 - val_f1_score: 0.9093 - val_accuracy: 0.9094 - val_auc: 0.9728
Epoch 211/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1950 - f1_score: 0.9195 - accuracy: 0.9196 - auc: 0.9771
Epoch 00211: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1930 - f1_score: 0.9202 - accuracy: 0.9203 - auc: 0.9776 - val_loss: 0.2551 - val_f1_score: 0.9006 - val_accuracy: 0.9009 - val_auc: 0.9714
Epoch 212/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1927 - f1_score: 0.9142 - accuracy: 0.9142 - auc: 0.9787
Epoch 00212: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1924 - f1_score: 0.9147 - accuracy: 0.9147 - auc: 0.9788 - val_loss: 0.3268 - val_f1_score: 0.8795 - val_accuracy: 0.8805 - val_auc: 0.9668
Epoch 213/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2035 - f1_score: 0.9167 - accuracy: 0.9168 - auc: 0.9755
Epoch 00213: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.2025 - f1_score: 0.9172 - accuracy: 0.9172 - auc: 0.9758 - val_loss: 0.2992 - val_f1_score: 0.8839 - val_accuracy: 0.8847 - val_auc: 0.9673
Epoch 214/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2052 - f1_score: 0.9104 - accuracy: 0.9104 - auc: 0.9748
Epoch 00214: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.2036 - f1_score: 0.9116 - accuracy: 0.9116 - auc: 0.9751 - val_loss: 0.2611 - val_f1_score: 0.8980 - val_accuracy: 0.8980 - val_auc: 0.9640
Epoch 215/500
50/50 [==============================] - ETA: 0s - loss: 0.1822 - f1_score: 0.9237 - accuracy: 0.9237 - auc: 0.9804
Epoch 00215: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1822 - f1_score: 0.9237 - accuracy: 0.9237 - auc: 0.9804 - val_loss: 0.2616 - val_f1_score: 0.8972 - val_accuracy: 0.8975 - val_auc: 0.9705
Epoch 216/500
50/50 [==============================] - ETA: 0s - loss: 0.1898 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9803

Epoch 00216: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1898 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9803 - val_loss: 0.4077 - val_f1_score: 0.8569 - val_accuracy: 0.8587 - val_auc: 0.9613
Epoch 217/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1758 - f1_score: 0.9279 - accuracy: 0.9279 - auc: 0.9816
Epoch 00217: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1758 - f1_score: 0.9278 - accuracy: 0.9278 - auc: 0.9818 - val_loss: 0.2971 - val_f1_score: 0.8888 - val_accuracy: 0.8894 - val_auc: 0.9682
Epoch 218/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1950 - f1_score: 0.9190 - accuracy: 0.9190 - auc: 0.9772
Epoch 00218: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1943 - f1_score: 0.9190 - accuracy: 0.9191 - auc: 0.9774 - val_loss: 0.3193 - val_f1_score: 0.8763 - val_accuracy: 0.8772 - val_auc: 0.9646
Epoch 219/500
50/50 [==============================] - ETA: 0s - loss: 0.1936 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9794
Epoch 00219: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1936 - f1_score: 0.9206 - accuracy: 0.9206 - auc: 0.9794 - val_loss: 0.3623 - val_f1_score: 0.8596 - val_accuracy: 0.8614 - val_auc: 0.9680
Epoch 220/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1789 - f1_score: 0.9283 - accuracy: 0.9283 - auc: 0.9801
Epoch 00220: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1783 - f1_score: 0.9281 - accuracy: 0.9281 - auc: 0.9803 - val_loss: 0.2928 - val_f1_score: 0.8884 - val_accuracy: 0.8889 - val_auc: 0.9674
Epoch 221/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1685 - f1_score: 0.9314 - accuracy: 0.9314 - auc: 0.9830
Epoch 00221: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1692 - f1_score: 0.9300 - accuracy: 0.9300 - auc: 0.9828 - val_loss: 0.2582 - val_f1_score: 0.9013 - val_accuracy: 0.9016 - val_auc: 0.9720
Epoch 222/500
50/50 [==============================] - ETA: 0s - loss: 0.1890 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9777
Epoch 00222: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1890 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9777 - val_loss: 0.4283 - val_f1_score: 0.8425 - val_accuracy: 0.8453 - val_auc: 0.9648
Epoch 223/500
49/50 [=============================>.] - ETA: 0s - loss: 0.2008 - f1_score: 0.9209 - accuracy: 0.9209 - auc: 0.9755
Epoch 00223: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.2022 - f1_score: 0.9197 - accuracy: 0.9197 - auc: 0.9752 - val_loss: 0.2901 - val_f1_score: 0.8821 - val_accuracy: 0.8830 - val_auc: 0.9716
Epoch 224/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1890 - f1_score: 0.9245 - accuracy: 0.9245 - auc: 0.9789
Epoch 00224: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1922 - f1_score: 0.9241 - accuracy: 0.9241 - auc: 0.9782 - val_loss: 0.2737 - val_f1_score: 0.8911 - val_accuracy: 0.8916 - val_auc: 0.9695
Epoch 225/500
50/50 [==============================] - ETA: 0s - loss: 0.1802 - f1_score: 0.9300 - accuracy: 0.9300 - auc: 0.9804
Epoch 00225: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1802 - f1_score: 0.9300 - accuracy: 0.9300 - auc: 0.9804 - val_loss: 0.2788 - val_f1_score: 0.8923 - val_accuracy: 0.8928 - val_auc: 0.9707
Epoch 226/500
50/50 [==============================] - ETA: 0s - loss: 0.1729 - f1_score: 0.9286 - accuracy: 0.9287 - auc: 0.9829
Epoch 00226: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1729 - f1_score: 0.9286 - accuracy: 0.9287 - auc: 0.9829 - val_loss: 0.2929 - val_f1_score: 0.8868 - val_accuracy: 0.8875 - val_auc: 0.9705
Epoch 227/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1774 - f1_score: 0.9321 - accuracy: 0.9321 - auc: 0.9814
Epoch 00227: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1779 - f1_score: 0.9315 - accuracy: 0.9316 - auc: 0.9813 - val_loss: 0.3831 - val_f1_score: 0.8572 - val_accuracy: 0.8594 - val_auc: 0.9689
Epoch 228/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1815 - f1_score: 0.9285 - accuracy: 0.9286 - auc: 0.9799
Epoch 00228: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1796 - f1_score: 0.9296 - accuracy: 0.9297 - auc: 0.9802 - val_loss: 0.3448 - val_f1_score: 0.8717 - val_accuracy: 0.8730 - val_auc: 0.9689
Epoch 229/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1655 - f1_score: 0.9349 - accuracy: 0.9349 - auc: 0.9828
Epoch 00229: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1645 - f1_score: 0.9353 - accuracy: 0.9353 - auc: 0.9831 - val_loss: 0.3400 - val_f1_score: 0.8711 - val_accuracy: 0.8723 - val_auc: 0.9684
Epoch 230/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1720 - f1_score: 0.9311 - accuracy: 0.9311 - auc: 0.9825
Epoch 00230: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1752 - f1_score: 0.9294 - accuracy: 0.9294 - auc: 0.9817 - val_loss: 0.2803 - val_f1_score: 0.8886 - val_accuracy: 0.8892 - val_auc: 0.9693
Epoch 231/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1707 - f1_score: 0.9288 - accuracy: 0.9289 - auc: 0.9815
Epoch 00231: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1699 - f1_score: 0.9287 - accuracy: 0.9287 - auc: 0.9817 - val_loss: 0.2399 - val_f1_score: 0.9053 - val_accuracy: 0.9055 - val_auc: 0.9723
Epoch 232/500
50/50 [==============================] - ETA: 0s - loss: 0.1896 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9791
Epoch 00232: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1896 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9791 - val_loss: 0.2824 -

val_f1_score: 0.8931 - val_accuracy: 0.8934 - val_auc: 0.9652
Epoch 233/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1817 - f1_score: 0.9292 - accuracy: 0.9294 - auc: 0.9807
Epoch 00233: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1805 - f1_score: 0.9302 - accuracy: 0.9303 - auc: 0.9810 - val_loss: 0.3569 - val_f1_score: 0.8591 - val_accuracy: 0.8608 - val_auc: 0.9626
Epoch 234/500
50/50 [==============================] - ETA: 0s - loss: 0.1570 - f1_score: 0.9356 - accuracy: 0.9356 - auc: 0.9849
Epoch 00234: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1570 - f1_score: 0.9356 - accuracy: 0.9356 - auc: 0.9849 - val_loss: 0.2498 - val_f1_score: 0.9031 - val_accuracy: 0.9033 - val_auc: 0.9718
Epoch 235/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1758 - f1_score: 0.9286 - accuracy: 0.9286 - auc: 0.9820
Epoch 00235: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1757 - f1_score: 0.9288 - accuracy: 0.9287 - auc: 0.9819 - val_loss: 0.2879 - val_f1_score: 0.8889 - val_accuracy: 0.8895 - val_auc: 0.9694
Epoch 236/500
50/50 [==============================] - ETA: 0s - loss: 0.1748 - f1_score: 0.9315 - accuracy: 0.9316 - auc: 0.9814
Epoch 00236: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1748 - f1_score: 0.9315 - accuracy: 0.9316 - auc: 0.9814 - val_loss: 0.3485 - val_f1_score: 0.8716 - val_accuracy: 0.8727 - val_auc: 0.9647
Epoch 237/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1745 - f1_score: 0.9330 - accuracy: 0.9330 - auc: 0.9816
Epoch 00237: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 41ms/step - loss: 0.1753 - f1_score: 0.9325 - accuracy: 0.9325 - auc: 0.9814 - val_loss: 0.3217 - val_f1_score: 0.8706 - val_accuracy: 0.8719 - val_auc: 0.9701
Epoch 238/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1711 - f1_score: 0.9349 - accuracy: 0.9349 - auc: 0.9832
Epoch 00238: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1692 - f1_score: 0.9359 - accuracy: 0.9359 - auc: 0.9835 - val_loss: 0.3228 - val_f1_score: 0.8758 - val_accuracy: 0.8770 - val_auc: 0.9737
Epoch 239/500
50/50 [==============================] - ETA: 0s - loss: 0.1989 - f1_score: 0.9219 - accuracy: 0.9219 - auc: 0.9762
Epoch 00239: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1989 - f1_score: 0.9219 - accuracy: 0.9219 - auc: 0.9762 - val_loss: 0.2485 - val_f1_score: 0.9005 - val_accuracy: 0.9008 - val_auc: 0.9722
Epoch 240/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1760 - f1_score: 0.9266 - accuracy: 0.9267 - auc: 0.9821
Epoch 00240: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1764 - f1_score: 0.9265 - accuracy: 0.9266 - auc: 0.9820 - val_loss: 0.3386 - val_f1_score: 0.8709 - val_accuracy: 0.8722 - val_auc: 0.9694
Epoch 241/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1647 - f1_score: 0.9343 - accuracy: 0.9343 - auc: 0.9838
Epoch 00241: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1652 - f1_score: 0.9341 - accuracy: 0.9341 - auc: 0.9838 - val_loss: 0.3095 - val_f1_score: 0.8799 - val_accuracy: 0.8806 - val_auc: 0.9642
Epoch 242/500
50/50 [==============================] - ETA: 0s - loss: 0.1619 - f1_score: 0.9312 - accuracy: 0.9312 - auc: 0.9845
Epoch 00242: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1619 - f1_score: 0.9312 - accuracy: 0.9312 - auc: 0.9845 - val_loss: 0.3477 - val_f1_score: 0.8709 - val_accuracy: 0.8719 - val_auc: 0.9591
Epoch 243/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1763 - f1_score: 0.9267 - accuracy: 0.9267 - auc: 0.9811
Epoch 00243: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1758 - f1_score: 0.9272 - accuracy: 0.9272 - auc: 0.9812 - val_loss: 0.2922 - val_f1_score: 0.8870 - val_accuracy: 0.8875 - val_auc: 0.9686
Epoch 244/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1719 - f1_score: 0.9289 - accuracy: 0.9289 - auc: 0.9828
Epoch 00244: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1717 - f1_score: 0.9297 - accuracy: 0.9297 - auc: 0.9828 - val_loss: 0.2317 - val_f1_score: 0.9068 - val_accuracy: 0.9069 - val_auc: 0.9736
Epoch 245/500
50/50 [==============================] - ETA: 0s - loss: 0.1867 - f1_score: 0.9191 - accuracy: 0.9191 - auc: 0.9800
Epoch 00245: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1867 - f1_score: 0.9191 - accuracy: 0.9191 - auc: 0.9800 - val_loss: 0.3203 - val_f1_score: 0.8770 - val_accuracy: 0.8781 - val_auc: 0.9686
Epoch 246/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1837 - f1_score: 0.9248 - accuracy: 0.9248 - auc: 0.9794
Epoch 00246: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 36ms/step - loss: 0.1838 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9793 - val_loss: 0.2519 - val_f1_score: 0.9011 - val_accuracy: 0.9014 - val_auc: 0.9703
Epoch 247/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1689 - f1_score: 0.9310 - accuracy: 0.9310 - auc: 0.9833
Epoch 00247: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1698 - f1_score: 0.9306 - accuracy: 0.9306 - auc: 0.9831 - val_loss: 0.2625 - val_f1_score: 0.8976 - val_accuracy: 0.8977 - val_auc: 0.9640
Epoch 248/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1832 - f1_score: 0.9247 - accuracy: 0.9247 - auc: 0.9807
Epoch 00248: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1816 - f1_score: 0.9256 - accuracy: 0.9256 - auc: 0.9810 - val_loss: 0.2899 - val_f1_score: 0.8881 - val_accuracy: 0.8888 - val_auc: 0.9704
Epoch 249/500
49/50 [=============================>] - ETA: 0s - loss: 0.1734 - f1_score: 0.9276 - accuracy: 0.9276 - auc: 0.9823

Epoch 00249: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1722 - f1_score: 0.9281 - accuracy: 0.9281 - auc: 0.9826 - val_loss: 0.3938 - val_f1_score: 0.8466 - val_accuracy: 0.8491 - val_auc: 0.9645
Epoch 250/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1690 - f1_score: 0.9333 - accuracy: 0.9333 - auc: 0.9831
Epoch 00250: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1700 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9828 - val_loss: 0.3795 - val_f1_score: 0.8551 - val_accuracy: 0.8572 - val_auc: 0.9675
Epoch 251/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1763 - f1_score: 0.9340 - accuracy: 0.9340 - auc: 0.9809
Epoch 00251: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 36ms/step - loss: 0.1755 - f1_score: 0.9341 - accuracy: 0.9341 - auc: 0.9812 - val_loss: 0.2529 - val_f1_score: 0.9024 - val_accuracy: 0.9025 - val_auc: 0.9694
Epoch 252/500
50/50 [==============================] - ETA: 0s - loss: 0.1703 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9818
Epoch 00252: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1703 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9818 - val_loss: 0.3579 - val_f1_score: 0.8674 - val_accuracy: 0.8687 - val_auc: 0.9658
Epoch 253/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1764 - f1_score: 0.9292 - accuracy: 0.9292 - auc: 0.9818
Epoch 00253: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1770 - f1_score: 0.9291 - accuracy: 0.9291 - auc: 0.9816 - val_loss: 0.3228 - val_f1_score: 0.8788 - val_accuracy: 0.8797 - val_auc: 0.9673
Epoch 254/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1745 - f1_score: 0.9285 - accuracy: 0.9286 - auc: 0.9823
Epoch 00254: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 38ms/step - loss: 0.1778 - f1_score: 0.9275 - accuracy: 0.9275 - auc: 0.9814 - val_loss: 0.3034 - val_f1_score: 0.8830 - val_accuracy: 0.8836 - val_auc: 0.9642
Epoch 255/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1776 - f1_score: 0.9289 - accuracy: 0.9289 - auc: 0.9812
Epoch 00255: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1761 - f1_score: 0.9294 - accuracy: 0.9294 - auc: 0.9815 - val_loss: 0.3505 - val_f1_score: 0.8714 - val_accuracy: 0.8723 - val_auc: 0.9592
Epoch 256/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1727 - f1_score: 0.9289 - accuracy: 0.9289 - auc: 0.9827
Epoch 00256: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1730 - f1_score: 0.9287 - accuracy: 0.9287 - auc: 0.9826 - val_loss: 0.3313 - val_f1_score: 0.8712 - val_accuracy: 0.8723 - val_auc: 0.9661
Epoch 257/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1561 - f1_score: 0.9420 - accuracy: 0.9420 - auc: 0.9850
Epoch 00257: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1546 - f1_score: 0.9422 - accuracy: 0.9422 - auc: 0.9852 - val_loss: 0.3625 - val_f1_score: 0.8655 - val_accuracy: 0.8667 - val_auc: 0.9605
Epoch 258/500
50/50 [==============================] - ETA: 0s - loss: 0.1581 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9843
Epoch 00258: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1581 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9843 - val_loss: 0.3712 - val_f1_score: 0.8622 - val_accuracy: 0.8637 - val_auc: 0.9641
Epoch 259/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1664 - f1_score: 0.9343 - accuracy: 0.9343 - auc: 0.9832
Epoch 00259: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1658 - f1_score: 0.9344 - accuracy: 0.9344 - auc: 0.9833 - val_loss: 0.2999 - val_f1_score: 0.8874 - val_accuracy: 0.8880 - val_auc: 0.9699
Epoch 260/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1646 - f1_score: 0.9327 - accuracy: 0.9327 - auc: 0.9836
Epoch 00260: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1631 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9839 - val_loss: 0.2588 - val_f1_score: 0.8976 - val_accuracy: 0.8980 - val_auc: 0.9732
Epoch 261/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1607 - f1_score: 0.9353 - accuracy: 0.9353 - auc: 0.9843
Epoch 00261: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1616 - f1_score: 0.9350 - accuracy: 0.9350 - auc: 0.9842 - val_loss: 0.3210 - val_f1_score: 0.8832 - val_accuracy: 0.8841 - val_auc: 0.9714
Epoch 262/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1748 - f1_score: 0.9308 - accuracy: 0.9308 - auc: 0.9815
Epoch 00262: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1734 - f1_score: 0.9316 - accuracy: 0.9316 - auc: 0.9818 - val_loss: 0.2901 - val_f1_score: 0.8887 - val_accuracy: 0.8894 - val_auc: 0.9702
Epoch 263/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1684 - f1_score: 0.9324 - accuracy: 0.9324 - auc: 0.9821
Epoch 00263: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1677 - f1_score: 0.9322 - accuracy: 0.9322 - auc: 0.9823 - val_loss: 0.3234 - val_f1_score: 0.8779 - val_accuracy: 0.8789 - val_auc: 0.9690
Epoch 264/500
50/50 [==============================] - ETA: 0s - loss: 0.1822 - f1_score: 0.9290 - accuracy: 0.9291 - auc: 0.9794
Epoch 00264: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1822 - f1_score: 0.9290 - accuracy: 0.9291 - auc: 0.9794 - val_loss: 0.3447 - val_f1_score: 0.8722 - val_accuracy: 0.8733 - val_auc: 0.9653
Epoch 265/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1821 - f1_score: 0.9263 - accuracy: 0.9263 - auc: 0.9803
Epoch 00265: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1825 - f1_score: 0.9256 - accuracy: 0.9256 - auc: 0.9803 - val_loss: 0.3897 -

val_f1_score: 0.8586 - val_accuracy: 0.8603 - val_auc: 0.9653
Epoch 266/500
50/50 [==============================] - ETA: 0s - loss: 0.1683 - f1_score: 0.9319 - accuracy: 0.9319 - auc: 0.9831
Epoch 00266: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1683 - f1_score: 0.9319 - accuracy: 0.9319 - auc: 0.9831 - val_loss: 0.3936 - val_f1_score: 0.8598 - val_accuracy: 0.8614 - val_auc: 0.9619
Epoch 267/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1581 - f1_score: 0.9362 - accuracy: 0.9362 - auc: 0.9853
Epoch 00267: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1595 - f1_score: 0.9350 - accuracy: 0.9350 - auc: 0.9849 - val_loss: 0.3383 - val_f1_score: 0.8687 - val_accuracy: 0.8698 - val_auc: 0.9629
Epoch 268/500
50/50 [==============================] - ETA: 0s - loss: 0.1661 - f1_score: 0.9328 - accuracy: 0.9328 - auc: 0.9841
Epoch 00268: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1661 - f1_score: 0.9328 - accuracy: 0.9328 - auc: 0.9841 - val_loss: 0.3540 - val_f1_score: 0.8652 - val_accuracy: 0.8667 - val_auc: 0.9679
Epoch 269/500
50/50 [==============================] - ETA: 0s - loss: 0.1722 - f1_score: 0.9278 - accuracy: 0.9278 - auc: 0.9824
Epoch 00269: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1722 - f1_score: 0.9278 - accuracy: 0.9278 - auc: 0.9824 - val_loss: 0.2419 - val_f1_score: 0.9053 - val_accuracy: 0.9056 - val_auc: 0.9752
Epoch 270/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1620 - f1_score: 0.9429 - accuracy: 0.9429 - auc: 0.9853
Epoch 00270: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1627 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9851 - val_loss: 0.3276 - val_f1_score: 0.8839 - val_accuracy: 0.8847 - val_auc: 0.9680
Epoch 271/500
50/50 [==============================] - ETA: 0s - loss: 0.1845 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9796
Epoch 00271: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1845 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9796 - val_loss: 0.2991 - val_f1_score: 0.8832 - val_accuracy: 0.8841 - val_auc: 0.9724
Epoch 272/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1503 - f1_score: 0.9454 - accuracy: 0.9455 - auc: 0.9871
Epoch 00272: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1506 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9870 - val_loss: 0.2946 - val_f1_score: 0.8902 - val_accuracy: 0.8908 - val_auc: 0.9686
Epoch 273/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1575 - f1_score: 0.9316 - accuracy: 0.9316 - auc: 0.9845
Epoch 00273: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1565 - f1_score: 0.9321 - accuracy: 0.9322 - auc: 0.9849 - val_loss: 0.3922 - val_f1_score: 0.8543 - val_accuracy: 0.8564 - val_auc: 0.9674
Epoch 274/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1509 - f1_score: 0.9404 - accuracy: 0.9404 - auc: 0.9864
Epoch 00274: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1505 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9863 - val_loss: 0.2761 - val_f1_score: 0.8981 - val_accuracy: 0.8984 - val_auc: 0.9707
Epoch 275/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1652 - f1_score: 0.9394 - accuracy: 0.9394 - auc: 0.9840
Epoch 00275: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1641 - f1_score: 0.9394 - accuracy: 0.9394 - auc: 0.9843 - val_loss: 0.2519 - val_f1_score: 0.9052 - val_accuracy: 0.9053 - val_auc: 0.9717
Epoch 276/500
50/50 [==============================] - ETA: 0s - loss: 0.1609 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9839
Epoch 00276: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1609 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9839 - val_loss: 0.3922 - val_f1_score: 0.8634 - val_accuracy: 0.8650 - val_auc: 0.9634
Epoch 277/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1559 - f1_score: 0.9420 - accuracy: 0.9420 - auc: 0.9852
Epoch 00277: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 36ms/step - loss: 0.1568 - f1_score: 0.9416 - accuracy: 0.9416 - auc: 0.9850 - val_loss: 0.3148 - val_f1_score: 0.8825 - val_accuracy: 0.8834 - val_auc: 0.9724
Epoch 278/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1704 - f1_score: 0.9318 - accuracy: 0.9318 - auc: 0.9834
Epoch 00278: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 36ms/step - loss: 0.1705 - f1_score: 0.9309 - accuracy: 0.9309 - auc: 0.9834 - val_loss: 0.2553 - val_f1_score: 0.9017 - val_accuracy: 0.9019 - val_auc: 0.9714
Epoch 279/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1665 - f1_score: 0.9336 - accuracy: 0.9336 - auc: 0.9833
Epoch 00279: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1642 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9838 - val_loss: 0.2736 - val_f1_score: 0.9013 - val_accuracy: 0.9016 - val_auc: 0.9717
Epoch 280/500
50/50 [==============================] - ETA: 0s - loss: 0.1672 - f1_score: 0.9347 - accuracy: 0.9347 - auc: 0.9831
Epoch 00280: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1672 - f1_score: 0.9347 - accuracy: 0.9347 - auc: 0.9831 - val_loss: 0.2814 - val_f1_score: 0.8930 - val_accuracy: 0.8934 - val_auc: 0.9713
Epoch 281/500
50/50 [==============================] - ETA: 0s - loss: 0.1467 - f1_score: 0.9437 - accuracy: 0.9438 - auc: 0.9881
Epoch 00281: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1467 - f1_score: 0.9437 - accuracy: 0.9438 - auc: 0.9881 - val_loss: 0.2739 - val_f1_score: 0.8978 - val_accuracy: 0.8981 - val_auc: 0.9706
Epoch 282/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1509 - f1_score: 0.9429 - accuracy: 0.9429 - auc: 0.9863

Epoch 00282: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1507 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9864 - val_loss: 0.3303 - val_f1_score: 0.8764 - val_accuracy: 0.8775 - val_auc: 0.9721
Epoch 283/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1475 - f1_score: 0.9395 - accuracy: 0.9395 - auc: 0.9868
Epoch 00283: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1495 - f1_score: 0.9394 - accuracy: 0.9394 - auc: 0.9865 - val_loss: 0.4151 - val_f1_score: 0.8510 - val_accuracy: 0.8531 - val_auc: 0.9613
Epoch 284/500
50/50 [==============================] - ETA: 0s - loss: 0.1526 - f1_score: 0.9415 - accuracy: 0.9416 - auc: 0.9858
Epoch 00284: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1526 - f1_score: 0.9415 - accuracy: 0.9416 - auc: 0.9858 - val_loss: 0.3196 - val_f1_score: 0.8838 - val_accuracy: 0.8845 - val_auc: 0.9697
Epoch 285/500
50/50 [==============================] - ETA: 0s - loss: 0.1776 - f1_score: 0.9297 - accuracy: 0.9297 - auc: 0.9815
Epoch 00285: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1776 - f1_score: 0.9297 - accuracy: 0.9297 - auc: 0.9815 - val_loss: 0.2395 - val_f1_score: 0.9057 - val_accuracy: 0.9059 - val_auc: 0.9737
Epoch 286/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1626 - f1_score: 0.9340 - accuracy: 0.9340 - auc: 0.9846
Epoch 00286: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1629 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9846 - val_loss: 0.3250 - val_f1_score: 0.8783 - val_accuracy: 0.8794 - val_auc: 0.9697
Epoch 287/500
50/50 [==============================] - ETA: 0s - loss: 0.1793 - f1_score: 0.9315 - accuracy: 0.9316 - auc: 0.9801
Epoch 00287: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 36ms/step - loss: 0.1793 - f1_score: 0.9315 - accuracy: 0.9316 - auc: 0.9801 - val_loss: 0.3007 - val_f1_score: 0.8837 - val_accuracy: 0.8845 - val_auc: 0.9695
Epoch 288/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1710 - f1_score: 0.9285 - accuracy: 0.9286 - auc: 0.9818
Epoch 00288: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1697 - f1_score: 0.9290 - accuracy: 0.9291 - auc: 0.9820 - val_loss: 0.2610 - val_f1_score: 0.9001 - val_accuracy: 0.9005 - val_auc: 0.9738
Epoch 289/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1421 - f1_score: 0.9458 - accuracy: 0.9458 - auc: 0.9872
Epoch 00289: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1418 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9873 - val_loss: 0.3021 - val_f1_score: 0.8849 - val_accuracy: 0.8856 - val_auc: 0.9701
Epoch 290/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1579 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9848
Epoch 00290: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1586 - f1_score: 0.9368 - accuracy: 0.9369 - auc: 0.9847 - val_loss: 0.2831 - val_f1_score: 0.8934 - val_accuracy: 0.8941 - val_auc: 0.9750
Epoch 291/500
50/50 [==============================] - ETA: 0s - loss: 0.1439 - f1_score: 0.9437 - accuracy: 0.9438 - auc: 0.9877
Epoch 00291: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1439 - f1_score: 0.9437 - accuracy: 0.9438 - auc: 0.9877 - val_loss: 0.2455 - val_f1_score: 0.9055 - val_accuracy: 0.9056 - val_auc: 0.9727
Epoch 292/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1312 - f1_score: 0.9483 - accuracy: 0.9483 - auc: 0.9906
Epoch 00292: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1319 - f1_score: 0.9481 - accuracy: 0.9481 - auc: 0.9904 - val_loss: 0.3861 - val_f1_score: 0.8696 - val_accuracy: 0.8708 - val_auc: 0.9627
Epoch 293/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1580 - f1_score: 0.9369 - accuracy: 0.9369 - auc: 0.9846
Epoch 00293: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1588 - f1_score: 0.9362 - accuracy: 0.9362 - auc: 0.9844 - val_loss: 0.2777 - val_f1_score: 0.8978 - val_accuracy: 0.8983 - val_auc: 0.9762
Epoch 294/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1682 - f1_score: 0.9321 - accuracy: 0.9321 - auc: 0.9828
Epoch 00294: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1689 - f1_score: 0.9312 - accuracy: 0.9312 - auc: 0.9826 - val_loss: 0.3423 - val_f1_score: 0.8842 - val_accuracy: 0.8850 - val_auc: 0.9693
Epoch 295/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1628 - f1_score: 0.9333 - accuracy: 0.9334 - auc: 0.9827
Epoch 00295: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1625 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9827 - val_loss: 0.4041 - val_f1_score: 0.8582 - val_accuracy: 0.8600 - val_auc: 0.9606
Epoch 296/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1706 - f1_score: 0.9279 - accuracy: 0.9279 - auc: 0.9825
Epoch 00296: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1695 - f1_score: 0.9278 - accuracy: 0.9278 - auc: 0.9827 - val_loss: 0.3631 - val_f1_score: 0.8746 - val_accuracy: 0.8758 - val_auc: 0.9670
Epoch 297/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1547 - f1_score: 0.9353 - accuracy: 0.9353 - auc: 0.9871
Epoch 00297: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1530 - f1_score: 0.9362 - accuracy: 0.9362 - auc: 0.9873 - val_loss: 0.2873 - val_f1_score: 0.8954 - val_accuracy: 0.8958 - val_auc: 0.9702
Epoch 298/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1508 - f1_score: 0.9353 - accuracy: 0.9353 - auc: 0.9866
Epoch 00298: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1505 - f1_score: 0.9353 - accuracy: 0.9353 - auc: 0.9867 - val_loss: 0.2647 -

val_f1_score: 0.9010 - val_accuracy: 0.9014 - val_auc: 0.9749
Epoch 299/500
49/50 [============================>.] - ETA: 0s - loss: 0.1664 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9836
Epoch 00299: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1658 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9838 - val_loss: 0.3014 - val_f1_score: 0.8877 - val_accuracy: 0.8884 - val_auc: 0.9736
Epoch 300/500
49/50 [============================>.] - ETA: 0s - loss: 0.1409 - f1_score: 0.9451 - accuracy: 0.9452 - auc: 0.9883
Epoch 00300: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1406 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9884 - val_loss: 0.3478 - val_f1_score: 0.8744 - val_accuracy: 0.8756 - val_auc: 0.9711
Epoch 301/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1671 - f1_score: 0.9332 - accuracy: 0.9333 - auc: 0.9841
Epoch 00301: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1663 - f1_score: 0.9347 - accuracy: 0.9347 - auc: 0.9842 - val_loss: 0.2601 - val_f1_score: 0.9034 - val_accuracy: 0.9036 - val_auc: 0.9719
Epoch 302/500
49/50 [============================>.] - ETA: 0s - loss: 0.1634 - f1_score: 0.9295 - accuracy: 0.9295 - auc: 0.9838
Epoch 00302: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1652 - f1_score: 0.9287 - accuracy: 0.9287 - auc: 0.9835 - val_loss: 0.2902 - val_f1_score: 0.8930 - val_accuracy: 0.8936 - val_auc: 0.9713
Epoch 303/500
49/50 [============================>.] - ETA: 0s - loss: 0.1511 - f1_score: 0.9410 - accuracy: 0.9410 - auc: 0.9857
Epoch 00303: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1510 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9858 - val_loss: 0.2508 - val_f1_score: 0.9024 - val_accuracy: 0.9025 - val_auc: 0.9677
Epoch 304/500
49/50 [============================>.] - ETA: 0s - loss: 0.1627 - f1_score: 0.9346 - accuracy: 0.9346 - auc: 0.9840
Epoch 00304: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1644 - f1_score: 0.9341 - accuracy: 0.9341 - auc: 0.9837 - val_loss: 0.2852 - val_f1_score: 0.8920 - val_accuracy: 0.8925 - val_auc: 0.9702
Epoch 305/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1497 - f1_score: 0.9423 - accuracy: 0.9424 - auc: 0.9865
Epoch 00305: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1487 - f1_score: 0.9428 - accuracy: 0.9428 - auc: 0.9867 - val_loss: 0.3520 - val_f1_score: 0.8769 - val_accuracy: 0.8778 - val_auc: 0.9644
Epoch 306/500
49/50 [============================>.] - ETA: 0s - loss: 0.1506 - f1_score: 0.9400 - accuracy: 0.9401 - auc: 0.9860
Epoch 00306: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1489 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9863 - val_loss: 0.2996 - val_f1_score: 0.8853 - val_accuracy: 0.8859 - val_auc: 0.9702
Epoch 307/500
49/50 [============================>.] - ETA: 0s - loss: 0.1442 - f1_score: 0.9445 - accuracy: 0.9445 - auc: 0.9876
Epoch 00307: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1450 - f1_score: 0.9444 - accuracy: 0.9444 - auc: 0.9876 - val_loss: 0.2472 - val_f1_score: 0.9019 - val_accuracy: 0.9020 - val_auc: 0.9704
Epoch 308/500
49/50 [============================>.] - ETA: 0s - loss: 0.1564 - f1_score: 0.9426 - accuracy: 0.9426 - auc: 0.9858
Epoch 00308: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 36ms/step - loss: 0.1551 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9860 - val_loss: 0.2623 - val_f1_score: 0.8962 - val_accuracy: 0.8966 - val_auc: 0.9728
Epoch 309/500
49/50 [============================>.] - ETA: 0s - loss: 0.1483 - f1_score: 0.9388 - accuracy: 0.9388 - auc: 0.9877
Epoch 00309: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1494 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9874 - val_loss: 0.2777 - val_f1_score: 0.8958 - val_accuracy: 0.8961 - val_auc: 0.9694
Epoch 310/500
49/50 [============================>.] - ETA: 0s - loss: 0.1567 - f1_score: 0.9432 - accuracy: 0.9432 - auc: 0.9858
Epoch 00310: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1565 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9859 - val_loss: 0.2591 - val_f1_score: 0.8993 - val_accuracy: 0.8997 - val_auc: 0.9745
Epoch 311/500
49/50 [============================>.] - ETA: 0s - loss: 0.1490 - f1_score: 0.9435 - accuracy: 0.9436 - auc: 0.9863
Epoch 00311: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1506 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9861 - val_loss: 0.3198 - val_f1_score: 0.8856 - val_accuracy: 0.8863 - val_auc: 0.9677
Epoch 312/500
50/50 [=============================] - ETA: 0s - loss: 0.1486 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9861
Epoch 00312: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1486 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9861 - val_loss: 0.2851 - val_f1_score: 0.8948 - val_accuracy: 0.8952 - val_auc: 0.9683
Epoch 313/500
49/50 [============================>.] - ETA: 0s - loss: 0.1383 - f1_score: 0.9458 - accuracy: 0.9458 - auc: 0.9884
Epoch 00313: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 37ms/step - loss: 0.1387 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9883 - val_loss: 0.2973 - val_f1_score: 0.8946 - val_accuracy: 0.8950 - val_auc: 0.9696
Epoch 314/500
50/50 [=============================] - ETA: 0s - loss: 0.1776 - f1_score: 0.9281 - accuracy: 0.9281 - auc: 0.9805
Epoch 00314: val_accuracy did not improve from 0.90938
50/50 [=============================] - 2s 36ms/step - loss: 0.1776 - f1_score: 0.9281 - accuracy: 0.9281 - auc: 0.9805 - val_loss: 0.3903 - val_f1_score: 0.8626 - val_accuracy: 0.8644 - val_auc: 0.9685
Epoch 315/500
50/50 [=============================] - ETA: 0s - loss: 0.1498 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9864

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Epoch 00315: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1498 - f1_score: 0.9409 - accuracy: 0.9409 - auc: 0.9864 - val_loss: 0.2786 - val_f1_score: 0.8962 - val_accuracy: 0.8967 - val_auc: 0.9720
Epoch 316/500
50/50 [==============================] - ETA: 0s - loss: 0.1434 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9883
Epoch 00316: val_accuracy did not improve from 0.90938
50/50 [==============================] - 2s 37ms/step - loss: 0.1434 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9883 - val_loss: 0.3035 - val_f1_score: 0.8882 - val_accuracy: 0.8889 - val_auc: 0.9739
Epoch 317/500
50/50 [==============================] - ETA: 0s - loss: 0.1441 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9875
Epoch 00317: val_accuracy improved from 0.90938 to 0.91109, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 44ms/step - loss: 0.1441 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9875 - val_loss: 0.2381 - val_f1_score: 0.9110 - val_accuracy: 0.9111 - val_auc: 0.9751
Epoch 318/500
50/50 [==============================] - ETA: 0s - loss: 0.1509 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9867
Epoch 00318: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1509 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9867 - val_loss: 0.3315 - val_f1_score: 0.8761 - val_accuracy: 0.8772 - val_auc: 0.9732
Epoch 319/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1432 - f1_score: 0.9407 - accuracy: 0.9407 - auc: 0.9879
Epoch 00319: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1437 - f1_score: 0.9406 - accuracy: 0.9406 - auc: 0.9876 - val_loss: 0.4810 - val_f1_score: 0.8399 - val_accuracy: 0.8425 - val_auc: 0.9590
Epoch 320/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1451 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9882
Epoch 00320: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1437 - f1_score: 0.9406 - accuracy: 0.9406 - auc: 0.9885 - val_loss: 0.3055 - val_f1_score: 0.8914 - val_accuracy: 0.8920 - val_auc: 0.9737
Epoch 321/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1370 - f1_score: 0.9464 - accuracy: 0.9464 - auc: 0.9892
Epoch 00321: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1361 - f1_score: 0.9466 - accuracy: 0.9466 - auc: 0.9894 - val_loss: 0.2895 - val_f1_score: 0.8957 - val_accuracy: 0.8963 - val_auc: 0.9722
Epoch 322/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1456 - f1_score: 0.9381 - accuracy: 0.9381 - auc: 0.9885
Epoch 00322: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1457 - f1_score: 0.9375 - accuracy: 0.9375 - auc: 0.9884 - val_loss: 0.2613 - val_f1_score: 0.9012 - val_accuracy: 0.9014 - val_auc: 0.9704
Epoch 323/500
50/50 [==============================] - ETA: 0s - loss: 0.1484 - f1_score: 0.9453 - accuracy: 0.9453 - auc: 0.9861
Epoch 00323: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1484 - f1_score: 0.9453 - accuracy: 0.9453 - auc: 0.9861 - val_loss: 0.3084 - val_f1_score: 0.8884 - val_accuracy: 0.8888 - val_auc: 0.9632
Epoch 324/500
50/50 [==============================] - ETA: 0s - loss: 0.1411 - f1_score: 0.9422 - accuracy: 0.9422 - auc: 0.9882
Epoch 00324: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1411 - f1_score: 0.9422 - accuracy: 0.9422 - auc: 0.9882 - val_loss: 0.2499 - val_f1_score: 0.9078 - val_accuracy: 0.9080 - val_auc: 0.9732
Epoch 325/500
50/50 [==============================] - ETA: 0s - loss: 0.1582 - f1_score: 0.9331 - accuracy: 0.9331 - auc: 0.9851
Epoch 00325: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1582 - f1_score: 0.9331 - accuracy: 0.9331 - auc: 0.9851 - val_loss: 0.2781 - val_f1_score: 0.9011 - val_accuracy: 0.9014 - val_auc: 0.9730
Epoch 326/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1511 - f1_score: 0.9337 - accuracy: 0.9337 - auc: 0.9853
Epoch 00326: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1501 - f1_score: 0.9347 - accuracy: 0.9347 - auc: 0.9855 - val_loss: 0.2684 - val_f1_score: 0.9016 - val_accuracy: 0.9019 - val_auc: 0.9723
Epoch 327/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1414 - f1_score: 0.9454 - accuracy: 0.9455 - auc: 0.9886
Epoch 00327: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1406 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9887 - val_loss: 0.3838 - val_f1_score: 0.8693 - val_accuracy: 0.8706 - val_auc: 0.9664
Epoch 328/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1522 - f1_score: 0.9385 - accuracy: 0.9385 - auc: 0.9857
Epoch 00328: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1501 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9860 - val_loss: 0.3472 - val_f1_score: 0.8727 - val_accuracy: 0.8741 - val_auc: 0.9732
Epoch 329/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1346 - f1_score: 0.9477 - accuracy: 0.9477 - auc: 0.9902
Epoch 00329: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1328 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9904 - val_loss: 0.2784 - val_f1_score: 0.8968 - val_accuracy: 0.8972 - val_auc: 0.9710
Epoch 330/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1312 - f1_score: 0.9483 - accuracy: 0.9483 - auc: 0.9900
Epoch 00330: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1303 - f1_score: 0.9481 - accuracy: 0.9481 - auc: 0.9901 - val_loss: 0.2859 - val_f1_score: 0.8933 - val_accuracy: 0.8938 - val_auc: 0.9712
Epoch 331/500
50/50 [==============================] - ETA: 0s - loss: 0.1404 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9880
Epoch 00331: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1404 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9880 - val_loss: 0.2774 -
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val_f1_score: 0.9001 - val_accuracy: 0.9005 - val_auc: 0.9745
Epoch 332/500
50/50 [==============================] - ETA: 0s - loss: 0.1505 - f1_score: 0.9403 - accuracy: 0.9403 - auc: 0.9863
Epoch 00332: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1505 - f1_score: 0.9403 - accuracy: 0.9403 - auc: 0.9863 - val_loss: 0.3233 - val_f1_score: 0.8810 - val_accuracy: 0.8819 - val_auc: 0.9715
Epoch 333/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1482 - f1_score: 0.9404 - accuracy: 0.9404 - auc: 0.9871
Epoch 00333: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1453 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9874 - val_loss: 0.3931 - val_f1_score: 0.8714 - val_accuracy: 0.8728 - val_auc: 0.9673
Epoch 334/500
49/50 [============================>.] - ETA: 0s - loss: 0.1450 - f1_score: 0.9416 - accuracy: 0.9416 - auc: 0.9878
Epoch 00334: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1466 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9876 - val_loss: 0.2959 - val_f1_score: 0.8916 - val_accuracy: 0.8920 - val_auc: 0.9671
Epoch 335/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1501 - f1_score: 0.9361 - accuracy: 0.9362 - auc: 0.9866
Epoch 00335: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1494 - f1_score: 0.9368 - accuracy: 0.9369 - auc: 0.9869 - val_loss: 0.2843 - val_f1_score: 0.8968 - val_accuracy: 0.8972 - val_auc: 0.9716
Epoch 336/500
49/50 [============================>.] - ETA: 0s - loss: 0.1484 - f1_score: 0.9365 - accuracy: 0.9365 - auc: 0.9875
Epoch 00336: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1474 - f1_score: 0.9372 - accuracy: 0.9372 - auc: 0.9877 - val_loss: 0.2652 - val_f1_score: 0.9046 - val_accuracy: 0.9048 - val_auc: 0.9736
Epoch 337/500
50/50 [==============================] - ETA: 0s - loss: 0.1383 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9880
Epoch 00337: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1383 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9880 - val_loss: 0.2697 - val_f1_score: 0.9016 - val_accuracy: 0.9019 - val_auc: 0.9714
Epoch 338/500
49/50 [============================>.] - ETA: 0s - loss: 0.1335 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9891
Epoch 00338: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1350 - f1_score: 0.9503 - accuracy: 0.9503 - auc: 0.9889 - val_loss: 0.3051 - val_f1_score: 0.8900 - val_accuracy: 0.8906 - val_auc: 0.9734
Epoch 339/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1512 - f1_score: 0.9349 - accuracy: 0.9349 - auc: 0.9871
Epoch 00339: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1506 - f1_score: 0.9353 - accuracy: 0.9353 - auc: 0.9872 - val_loss: 0.3180 - val_f1_score: 0.8847 - val_accuracy: 0.8855 - val_auc: 0.9706
Epoch 340/500
49/50 [============================>.] - ETA: 0s - loss: 0.1422 - f1_score: 0.9448 - accuracy: 0.9448 - auc: 0.9877
Epoch 00340: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1432 - f1_score: 0.9444 - accuracy: 0.9444 - auc: 0.9875 - val_loss: 0.3511 - val_f1_score: 0.8786 - val_accuracy: 0.8797 - val_auc: 0.9700
Epoch 341/500
50/50 [==============================] - ETA: 0s - loss: 0.1495 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9872
Epoch 00341: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1495 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9872 - val_loss: 0.4638 - val_f1_score: 0.8509 - val_accuracy: 0.8528 - val_auc: 0.9586
Epoch 342/500
49/50 [============================>.] - ETA: 0s - loss: 0.1380 - f1_score: 0.9474 - accuracy: 0.9474 - auc: 0.9894
Epoch 00342: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1386 - f1_score: 0.9471 - accuracy: 0.9472 - auc: 0.9894 - val_loss: 0.3887 - val_f1_score: 0.8671 - val_accuracy: 0.8686 - val_auc: 0.9684
Epoch 343/500
49/50 [============================>.] - ETA: 0s - loss: 0.1429 - f1_score: 0.9445 - accuracy: 0.9445 - auc: 0.9876
Epoch 00343: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1433 - f1_score: 0.9440 - accuracy: 0.9441 - auc: 0.9876 - val_loss: 0.3429 - val_f1_score: 0.8812 - val_accuracy: 0.8820 - val_auc: 0.9697
Epoch 344/500
49/50 [============================>.] - ETA: 0s - loss: 0.1620 - f1_score: 0.9359 - accuracy: 0.9359 - auc: 0.9845
Epoch 00344: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1611 - f1_score: 0.9362 - accuracy: 0.9362 - auc: 0.9846 - val_loss: 0.2897 - val_f1_score: 0.8948 - val_accuracy: 0.8953 - val_auc: 0.9711
Epoch 345/500
49/50 [============================>.] - ETA: 0s - loss: 0.1376 - f1_score: 0.9436 - accuracy: 0.9436 - auc: 0.9892
Epoch 00345: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1367 - f1_score: 0.9437 - accuracy: 0.9438 - auc: 0.9894 - val_loss: 0.3708 - val_f1_score: 0.8698 - val_accuracy: 0.8711 - val_auc: 0.9674
Epoch 346/500
49/50 [============================>.] - ETA: 0s - loss: 0.1312 - f1_score: 0.9493 - accuracy: 0.9493 - auc: 0.9896
Epoch 00346: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 39ms/step - loss: 0.1316 - f1_score: 0.9497 - accuracy: 0.9497 - auc: 0.9894 - val_loss: 0.3077 - val_f1_score: 0.8899 - val_accuracy: 0.8905 - val_auc: 0.9712
Epoch 347/500
49/50 [============================>.] - ETA: 0s - loss: 0.1340 - f1_score: 0.9461 - accuracy: 0.9461 - auc: 0.9885
Epoch 00347: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1331 - f1_score: 0.9466 - accuracy: 0.9466 - auc: 0.9887 - val_loss: 0.2520 - val_f1_score: 0.9077 - val_accuracy: 0.9078 - val_auc: 0.9741
Epoch 348/500
49/50 [============================>.] - ETA: 0s - loss: 0.1263 - f1_score: 0.9499 - accuracy: 0.9499 - auc: 0.9905

Epoch 00348: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1263 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9905 - val_loss: 0.3790 - val_f1_score: 0.8759 - val_accuracy: 0.8770 - val_auc: 0.9703
Epoch 349/500
50/50 [==============================] - ETA: 0s - loss: 0.1379 - f1_score: 0.9462 - accuracy: 0.9463 - auc: 0.9890
Epoch 00349: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 38ms/step - loss: 0.1379 - f1_score: 0.9462 - accuracy: 0.9463 - auc: 0.9890 - val_loss: 0.2973 - val_f1_score: 0.8930 - val_accuracy: 0.8934 - val_auc: 0.9704
Epoch 350/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1377 - f1_score: 0.9437 - accuracy: 0.9437 - auc: 0.9885
Epoch 00350: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1367 - f1_score: 0.9441 - accuracy: 0.9441 - auc: 0.9888 - val_loss: 0.3492 - val_f1_score: 0.8849 - val_accuracy: 0.8856 - val_auc: 0.9680
Epoch 351/500
49/50 [============================>.] - ETA: 0s - loss: 0.1486 - f1_score: 0.9423 - accuracy: 0.9423 - auc: 0.9861
Epoch 00351: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1464 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9864 - val_loss: 0.3476 - val_f1_score: 0.8806 - val_accuracy: 0.8816 - val_auc: 0.9717
Epoch 352/500
50/50 [==============================] - ETA: 0s - loss: 0.1299 - f1_score: 0.9493 - accuracy: 0.9494 - auc: 0.9895
Epoch 00352: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1299 - f1_score: 0.9493 - accuracy: 0.9494 - auc: 0.9895 - val_loss: 0.2601 - val_f1_score: 0.9054 - val_accuracy: 0.9056 - val_auc: 0.9728
Epoch 353/500
50/50 [==============================] - ETA: 0s - loss: 0.1446 - f1_score: 0.9419 - accuracy: 0.9419 - auc: 0.9874
Epoch 00353: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1446 - f1_score: 0.9419 - accuracy: 0.9419 - auc: 0.9874 - val_loss: 0.3268 - val_f1_score: 0.8797 - val_accuracy: 0.8805 - val_auc: 0.9687
Epoch 354/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1306 - f1_score: 0.9499 - accuracy: 0.9499 - auc: 0.9895
Epoch 00354: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1305 - f1_score: 0.9494 - accuracy: 0.9494 - auc: 0.9897 - val_loss: 0.3703 - val_f1_score: 0.8750 - val_accuracy: 0.8763 - val_auc: 0.9687
Epoch 355/500
49/50 [============================>.] - ETA: 0s - loss: 0.1239 - f1_score: 0.9541 - accuracy: 0.9541 - auc: 0.9911
Epoch 00355: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1223 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9913 - val_loss: 0.3641 - val_f1_score: 0.8794 - val_accuracy: 0.8805 - val_auc: 0.9718
Epoch 356/500
49/50 [============================>.] - ETA: 0s - loss: 0.1371 - f1_score: 0.9464 - accuracy: 0.9464 - auc: 0.9887
Epoch 00356: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1368 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9888 - val_loss: 0.3373 - val_f1_score: 0.8857 - val_accuracy: 0.8864 - val_auc: 0.9686
Epoch 357/500
49/50 [============================>.] - ETA: 0s - loss: 0.1406 - f1_score: 0.9436 - accuracy: 0.9436 - auc: 0.9878
Epoch 00357: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1416 - f1_score: 0.9428 - accuracy: 0.9428 - auc: 0.9877 - val_loss: 0.3435 - val_f1_score: 0.8768 - val_accuracy: 0.8780 - val_auc: 0.9714
Epoch 358/500
49/50 [============================>.] - ETA: 0s - loss: 0.1550 - f1_score: 0.9378 - accuracy: 0.9378 - auc: 0.9865
Epoch 00358: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1541 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9866 - val_loss: 0.3269 - val_f1_score: 0.8881 - val_accuracy: 0.8888 - val_auc: 0.9691
Epoch 359/500
49/50 [============================>.] - ETA: 0s - loss: 0.1364 - f1_score: 0.9451 - accuracy: 0.9452 - auc: 0.9902
Epoch 00359: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 40ms/step - loss: 0.1351 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9904 - val_loss: 0.3574 - val_f1_score: 0.8788 - val_accuracy: 0.8798 - val_auc: 0.9686
Epoch 360/500
49/50 [============================>.] - ETA: 0s - loss: 0.1519 - f1_score: 0.9378 - accuracy: 0.9378 - auc: 0.9861
Epoch 00360: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 38ms/step - loss: 0.1514 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9862 - val_loss: 0.2966 - val_f1_score: 0.8951 - val_accuracy: 0.8955 - val_auc: 0.9694
Epoch 361/500
49/50 [============================>.] - ETA: 0s - loss: 0.1336 - f1_score: 0.9480 - accuracy: 0.9480 - auc: 0.9890
Epoch 00361: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1347 - f1_score: 0.9475 - accuracy: 0.9475 - auc: 0.9888 - val_loss: 0.3252 - val_f1_score: 0.8863 - val_accuracy: 0.8870 - val_auc: 0.9700
Epoch 362/500
49/50 [============================>.] - ETA: 0s - loss: 0.1273 - f1_score: 0.9518 - accuracy: 0.9518 - auc: 0.9913
Epoch 00362: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1264 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9914 - val_loss: 0.3162 - val_f1_score: 0.8881 - val_accuracy: 0.8889 - val_auc: 0.9731
Epoch 363/500
50/50 [==============================] - ETA: 0s - loss: 0.1395 - f1_score: 0.9396 - accuracy: 0.9397 - auc: 0.9880
Epoch 00363: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1395 - f1_score: 0.9396 - accuracy: 0.9397 - auc: 0.9880 - val_loss: 0.3571 - val_f1_score: 0.8793 - val_accuracy: 0.8803 - val_auc: 0.9677
Epoch 364/500
49/50 [============================>.] - ETA: 0s - loss: 0.1371 - f1_score: 0.9445 - accuracy: 0.9445 - auc: 0.9889
Epoch 00364: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1380 - f1_score: 0.9437 - accuracy: 0.9438 - auc: 0.9888 - val_loss: 0.4478 -

val_f1_score: 0.8548 - val_accuracy: 0.8569 - val_auc: 0.9657
Epoch 365/500
47/50 [============================>..] - ETA: 0s - loss: 0.1440 - f1_score: 0.9461 - accuracy: 0.9461 - auc: 0.9871
Epoch 00365: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1446 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9870 - val_loss: 0.2905 - val_f1_score: 0.8985 - val_accuracy: 0.8989 - val_auc: 0.9722
Epoch 366/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1342 - f1_score: 0.9537 - accuracy: 0.9538 - auc: 0.9894
Epoch 00366: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1352 - f1_score: 0.9537 - accuracy: 0.9538 - auc: 0.9892 - val_loss: 0.3567 - val_f1_score: 0.8876 - val_accuracy: 0.8883 - val_auc: 0.9699
Epoch 367/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1505 - f1_score: 0.9410 - accuracy: 0.9410 - auc: 0.9869
Epoch 00367: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1513 - f1_score: 0.9400 - accuracy: 0.9400 - auc: 0.9869 - val_loss: 0.2901 - val_f1_score: 0.8963 - val_accuracy: 0.8967 - val_auc: 0.9731
Epoch 368/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1379 - f1_score: 0.9477 - accuracy: 0.9477 - auc: 0.9885
Epoch 00368: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1385 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9883 - val_loss: 0.3497 - val_f1_score: 0.8837 - val_accuracy: 0.8845 - val_auc: 0.9691
Epoch 369/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1306 - f1_score: 0.9531 - accuracy: 0.9531 - auc: 0.9887
Epoch 00369: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1291 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9889 - val_loss: 0.2986 - val_f1_score: 0.8959 - val_accuracy: 0.8964 - val_auc: 0.9736
Epoch 370/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1177 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9906
Epoch 00370: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1185 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9907 - val_loss: 0.3599 - val_f1_score: 0.8802 - val_accuracy: 0.8813 - val_auc: 0.9701
Epoch 371/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1344 - f1_score: 0.9477 - accuracy: 0.9477 - auc: 0.9902
Epoch 00371: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1331 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9903 - val_loss: 0.3061 - val_f1_score: 0.8958 - val_accuracy: 0.8964 - val_auc: 0.9734
Epoch 372/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1142 - f1_score: 0.9560 - accuracy: 0.9560 - auc: 0.9920
Epoch 00372: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1142 - f1_score: 0.9562 - accuracy: 0.9563 - auc: 0.9921 - val_loss: 0.3591 - val_f1_score: 0.8798 - val_accuracy: 0.8808 - val_auc: 0.9703
Epoch 373/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1303 - f1_score: 0.9490 - accuracy: 0.9490 - auc: 0.9904
Epoch 00373: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1317 - f1_score: 0.9487 - accuracy: 0.9488 - auc: 0.9902 - val_loss: 0.3451 - val_f1_score: 0.8843 - val_accuracy: 0.8852 - val_auc: 0.9706
Epoch 374/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1368 - f1_score: 0.9474 - accuracy: 0.9474 - auc: 0.9891
Epoch 00374: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1398 - f1_score: 0.9466 - accuracy: 0.9466 - auc: 0.9887 - val_loss: 0.3027 - val_f1_score: 0.8927 - val_accuracy: 0.8933 - val_auc: 0.9748
Epoch 375/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1296 - f1_score: 0.9512 - accuracy: 0.9512 - auc: 0.9901
Epoch 00375: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1288 - f1_score: 0.9512 - accuracy: 0.9513 - auc: 0.9902 - val_loss: 0.3272 - val_f1_score: 0.8888 - val_accuracy: 0.8895 - val_auc: 0.9705
Epoch 376/500
50/50 [==============================] - ETA: 0s - loss: 0.1554 - f1_score: 0.9362 - accuracy: 0.9362 - auc: 0.9856
Epoch 00376: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1554 - f1_score: 0.9362 - accuracy: 0.9362 - auc: 0.9856 - val_loss: 0.3364 - val_f1_score: 0.8861 - val_accuracy: 0.8869 - val_auc: 0.9723
Epoch 377/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1119 - f1_score: 0.9557 - accuracy: 0.9557 - auc: 0.9922
Epoch 00377: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1127 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9921 - val_loss: 0.3632 - val_f1_score: 0.8752 - val_accuracy: 0.8763 - val_auc: 0.9675
Epoch 378/500
50/50 [==============================] - ETA: 0s - loss: 0.1345 - f1_score: 0.9465 - accuracy: 0.9466 - auc: 0.9896
Epoch 00378: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1345 - f1_score: 0.9465 - accuracy: 0.9466 - auc: 0.9896 - val_loss: 0.3141 - val_f1_score: 0.8930 - val_accuracy: 0.8936 - val_auc: 0.9690
Epoch 379/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1220 - f1_score: 0.9515 - accuracy: 0.9515 - auc: 0.9914
Epoch 00379: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1207 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9916 - val_loss: 0.3364 - val_f1_score: 0.8850 - val_accuracy: 0.8858 - val_auc: 0.9676
Epoch 380/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1491 - f1_score: 0.9404 - accuracy: 0.9404 - auc: 0.9872
Epoch 00380: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1502 - f1_score: 0.9403 - accuracy: 0.9403 - auc: 0.9871 - val_loss: 0.3238 - val_f1_score: 0.8901 - val_accuracy: 0.8908 - val_auc: 0.9712
Epoch 381/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1190 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9913

Epoch 00381: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1199 - f1_score: 0.9522 - accuracy: 0.9522 - auc: 0.9911 - val_loss: 0.3534 - val_f1_score: 0.8804 - val_accuracy: 0.8813 - val_auc: 0.9665
Epoch 382/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1537 - f1_score: 0.9404 - accuracy: 0.9404 - auc: 0.9868
Epoch 00382: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1551 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9865 - val_loss: 0.2697 - val_f1_score: 0.9064 - val_accuracy: 0.9066 - val_auc: 0.9718
Epoch 383/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1448 - f1_score: 0.9420 - accuracy: 0.9420 - auc: 0.9869
Epoch 00383: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1467 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9866 - val_loss: 0.2625 - val_f1_score: 0.9059 - val_accuracy: 0.9061 - val_auc: 0.9733
Epoch 384/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1408 - f1_score: 0.9445 - accuracy: 0.9445 - auc: 0.9877
Epoch 00384: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1399 - f1_score: 0.9453 - accuracy: 0.9453 - auc: 0.9878 - val_loss: 0.3991 - val_f1_score: 0.8676 - val_accuracy: 0.8691 - val_auc: 0.9653
Epoch 385/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1196 - f1_score: 0.9556 - accuracy: 0.9557 - auc: 0.9917
Epoch 00385: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1179 - f1_score: 0.9565 - accuracy: 0.9566 - auc: 0.9918 - val_loss: 0.2633 - val_f1_score: 0.9090 - val_accuracy: 0.9092 - val_auc: 0.9747
Epoch 386/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1209 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9924
Epoch 00386: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1235 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9918 - val_loss: 0.3835 - val_f1_score: 0.8704 - val_accuracy: 0.8716 - val_auc: 0.9636
Epoch 387/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1315 - f1_score: 0.9448 - accuracy: 0.9448 - auc: 0.9899
Epoch 00387: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1320 - f1_score: 0.9453 - accuracy: 0.9453 - auc: 0.9898 - val_loss: 0.3821 - val_f1_score: 0.8672 - val_accuracy: 0.8686 - val_auc: 0.9644
Epoch 388/500
50/50 [==============================] - ETA: 0s - loss: 0.1298 - f1_score: 0.9462 - accuracy: 0.9463 - auc: 0.9906
Epoch 00388: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1298 - f1_score: 0.9462 - accuracy: 0.9463 - auc: 0.9906 - val_loss: 0.3206 - val_f1_score: 0.8952 - val_accuracy: 0.8956 - val_auc: 0.9701
Epoch 389/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1297 - f1_score: 0.9515 - accuracy: 0.9515 - auc: 0.9898
Epoch 00389: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1299 - f1_score: 0.9516 - accuracy: 0.9516 - auc: 0.9898 - val_loss: 0.2616 - val_f1_score: 0.9059 - val_accuracy: 0.9061 - val_auc: 0.9744
Epoch 390/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1174 - f1_score: 0.9493 - accuracy: 0.9493 - auc: 0.9922
Epoch 00390: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1177 - f1_score: 0.9491 - accuracy: 0.9491 - auc: 0.9922 - val_loss: 0.2908 - val_f1_score: 0.9026 - val_accuracy: 0.9028 - val_auc: 0.9702
Epoch 391/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1345 - f1_score: 0.9426 - accuracy: 0.9426 - auc: 0.9891
Epoch 00391: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1329 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9892 - val_loss: 0.3414 - val_f1_score: 0.8893 - val_accuracy: 0.8900 - val_auc: 0.9697
Epoch 392/500
48/50 [=============================>..] - ETA: 0s - loss: 0.1405 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9884
Epoch 00392: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1390 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9886 - val_loss: 0.3891 - val_f1_score: 0.8662 - val_accuracy: 0.8675 - val_auc: 0.9619
Epoch 393/500
50/50 [==============================] - ETA: 0s - loss: 0.1362 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9893
Epoch 00393: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1362 - f1_score: 0.9459 - accuracy: 0.9459 - auc: 0.9893 - val_loss: 0.4326 - val_f1_score: 0.8597 - val_accuracy: 0.8616 - val_auc: 0.9684
Epoch 394/500
50/50 [==============================] - ETA: 0s - loss: 0.1108 - f1_score: 0.9562 - accuracy: 0.9563 - auc: 0.9928
Epoch 00394: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1108 - f1_score: 0.9562 - accuracy: 0.9563 - auc: 0.9928 - val_loss: 0.4165 - val_f1_score: 0.8680 - val_accuracy: 0.8694 - val_auc: 0.9646
Epoch 395/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1373 - f1_score: 0.9467 - accuracy: 0.9467 - auc: 0.9891
Epoch 00395: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1365 - f1_score: 0.9469 - accuracy: 0.9469 - auc: 0.9892 - val_loss: 0.2624 - val_f1_score: 0.9038 - val_accuracy: 0.9041 - val_auc: 0.9747
Epoch 396/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1405 - f1_score: 0.9461 - accuracy: 0.9461 - auc: 0.9883
Epoch 00396: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1394 - f1_score: 0.9465 - accuracy: 0.9466 - auc: 0.9885 - val_loss: 0.4623 - val_f1_score: 0.8502 - val_accuracy: 0.8525 - val_auc: 0.9612
Epoch 397/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1546 - f1_score: 0.9413 - accuracy: 0.9413 - auc: 0.9854
Epoch 00397: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1538 - f1_score: 0.9416 - accuracy: 0.9416 - auc: 0.9856 - val_loss: 0.4468 -

val_f1_score: 0.8559 - val_accuracy: 0.8573 - val_auc: 0.9502
Epoch 398/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1434 - f1_score: 0.9349 - accuracy: 0.9349 - auc: 0.9876
Epoch 00398: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1421 - f1_score: 0.9356 - accuracy: 0.9356 - auc: 0.9878 - val_loss: 0.2848 - val_f1_score: 0.9003 - val_accuracy: 0.9006 - val_auc: 0.9721
Epoch 399/500
50/50 [============================] - ETA: 0s - loss: 0.1456 - f1_score: 0.9441 - accuracy: 0.9441 - auc: 0.9873
Epoch 00399: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1456 - f1_score: 0.9441 - accuracy: 0.9441 - auc: 0.9873 - val_loss: 0.3412 - val_f1_score: 0.8851 - val_accuracy: 0.8858 - val_auc: 0.9698
Epoch 400/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1185 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9920
Epoch 00400: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1203 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9917 - val_loss: 0.3055 - val_f1_score: 0.8942 - val_accuracy: 0.8947 - val_auc: 0.9715
Epoch 401/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1278 - f1_score: 0.9496 - accuracy: 0.9496 - auc: 0.9891
Epoch 00401: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1284 - f1_score: 0.9491 - accuracy: 0.9491 - auc: 0.9891 - val_loss: 0.3061 - val_f1_score: 0.8953 - val_accuracy: 0.8959 - val_auc: 0.9731
Epoch 402/500
50/50 [============================] - ETA: 0s - loss: 0.1058 - f1_score: 0.9581 - accuracy: 0.9581 - auc: 0.9940
Epoch 00402: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1058 - f1_score: 0.9581 - accuracy: 0.9581 - auc: 0.9940 - val_loss: 0.2594 - val_f1_score: 0.9078 - val_accuracy: 0.9080 - val_auc: 0.9744
Epoch 403/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1241 - f1_score: 0.9518 - accuracy: 0.9518 - auc: 0.9914
Epoch 00403: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1237 - f1_score: 0.9516 - accuracy: 0.9516 - auc: 0.9915 - val_loss: 0.2839 - val_f1_score: 0.9010 - val_accuracy: 0.9014 - val_auc: 0.9735
Epoch 404/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1179 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9918
Epoch 00404: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1186 - f1_score: 0.9524 - accuracy: 0.9525 - auc: 0.9918 - val_loss: 0.3686 - val_f1_score: 0.8777 - val_accuracy: 0.8788 - val_auc: 0.9710
Epoch 405/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1377 - f1_score: 0.9477 - accuracy: 0.9477 - auc: 0.9877
Epoch 00405: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1366 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9879 - val_loss: 0.2926 - val_f1_score: 0.8975 - val_accuracy: 0.8980 - val_auc: 0.9725
Epoch 406/500
50/50 [============================] - ETA: 0s - loss: 0.1238 - f1_score: 0.9512 - accuracy: 0.9513 - auc: 0.9910
Epoch 00406: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1238 - f1_score: 0.9512 - accuracy: 0.9513 - auc: 0.9910 - val_loss: 0.3134 - val_f1_score: 0.8915 - val_accuracy: 0.8920 - val_auc: 0.9694
Epoch 407/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1189 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9910
Epoch 00407: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1187 - f1_score: 0.9531 - accuracy: 0.9531 - auc: 0.9910 - val_loss: 0.3324 - val_f1_score: 0.8954 - val_accuracy: 0.8959 - val_auc: 0.9721
Epoch 408/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1349 - f1_score: 0.9477 - accuracy: 0.9477 - auc: 0.9894
Epoch 00408: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1372 - f1_score: 0.9474 - accuracy: 0.9475 - auc: 0.9891 - val_loss: 0.3414 - val_f1_score: 0.8904 - val_accuracy: 0.8909 - val_auc: 0.9688
Epoch 409/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1202 - f1_score: 0.9503 - accuracy: 0.9503 - auc: 0.9911
Epoch 00409: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1197 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9911 - val_loss: 0.3051 - val_f1_score: 0.8950 - val_accuracy: 0.8955 - val_auc: 0.9711
Epoch 410/500
50/50 [============================] - ETA: 0s - loss: 0.1269 - f1_score: 0.9462 - accuracy: 0.9463 - auc: 0.9906
Epoch 00410: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 36ms/step - loss: 0.1269 - f1_score: 0.9462 - accuracy: 0.9463 - auc: 0.9906 - val_loss: 0.3219 - val_f1_score: 0.8913 - val_accuracy: 0.8919 - val_auc: 0.9701
Epoch 411/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1141 - f1_score: 0.9537 - accuracy: 0.9538 - auc: 0.9931
Epoch 00411: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1137 - f1_score: 0.9540 - accuracy: 0.9541 - auc: 0.9931 - val_loss: 0.3146 - val_f1_score: 0.8959 - val_accuracy: 0.8964 - val_auc: 0.9726
Epoch 412/500
50/50 [============================] - ETA: 0s - loss: 0.1174 - f1_score: 0.9559 - accuracy: 0.9559 - auc: 0.9913
Epoch 00412: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1174 - f1_score: 0.9559 - accuracy: 0.9559 - auc: 0.9913 - val_loss: 0.2665 - val_f1_score: 0.9094 - val_accuracy: 0.9095 - val_auc: 0.9740
Epoch 413/500
49/50 [===========================>.] - ETA: 0s - loss: 0.1330 - f1_score: 0.9499 - accuracy: 0.9499 - auc: 0.9896
Epoch 00413: val_accuracy did not improve from 0.91109
50/50 [============================] - 2s 37ms/step - loss: 0.1333 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9896 - val_loss: 0.3418 - val_f1_score: 0.8843 - val_accuracy: 0.8852 - val_auc: 0.9716
Epoch 414/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1258 - f1_score: 0.9508 - accuracy: 0.9508 - auc: 0.9912

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Epoch 00414: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1258 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9912 - val_loss: 0.2543 - val_f1_score: 0.9099 - val_accuracy: 0.9102 - val_auc: 0.9751
Epoch 415/500
50/50 [==============================] - ETA: 0s - loss: 0.1307 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9896
Epoch 00415: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1307 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9896 - val_loss: 0.3451 - val_f1_score: 0.8830 - val_accuracy: 0.8839 - val_auc: 0.9708
Epoch 416/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1260 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9908
Epoch 00416: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1246 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9910 - val_loss: 0.2703 - val_f1_score: 0.9089 - val_accuracy: 0.9092 - val_auc: 0.9752
Epoch 417/500
50/50 [==============================] - ETA: 0s - loss: 0.1167 - f1_score: 0.9522 - accuracy: 0.9522 - auc: 0.9918
Epoch 00417: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1167 - f1_score: 0.9522 - accuracy: 0.9522 - auc: 0.9918 - val_loss: 0.2567 - val_f1_score: 0.9091 - val_accuracy: 0.9094 - val_auc: 0.9765
Epoch 418/500
50/50 [==============================] - ETA: 0s - loss: 0.1149 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9915
Epoch 00418: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1149 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9915 - val_loss: 0.3025 - val_f1_score: 0.8993 - val_accuracy: 0.8998 - val_auc: 0.9740
Epoch 419/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1230 - f1_score: 0.9523 - accuracy: 0.9525 - auc: 0.9906
Epoch 00419: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1228 - f1_score: 0.9526 - accuracy: 0.9528 - auc: 0.9905 - val_loss: 0.2590 - val_f1_score: 0.9045 - val_accuracy: 0.9047 - val_auc: 0.9718
Epoch 420/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1312 - f1_score: 0.9480 - accuracy: 0.9480 - auc: 0.9895
Epoch 00420: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1337 - f1_score: 0.9466 - accuracy: 0.9466 - auc: 0.9892 - val_loss: 0.3459 - val_f1_score: 0.8899 - val_accuracy: 0.8905 - val_auc: 0.9678
Epoch 421/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1304 - f1_score: 0.9512 - accuracy: 0.9512 - auc: 0.9893
Epoch 00421: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1294 - f1_score: 0.9512 - accuracy: 0.9513 - auc: 0.9894 - val_loss: 0.2817 - val_f1_score: 0.8995 - val_accuracy: 0.8998 - val_auc: 0.9728
Epoch 422/500
50/50 [==============================] - ETA: 0s - loss: 0.1284 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9897
Epoch 00422: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1284 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9897 - val_loss: 0.3469 - val_f1_score: 0.8844 - val_accuracy: 0.8852 - val_auc: 0.9686
Epoch 423/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1347 - f1_score: 0.9476 - accuracy: 0.9477 - auc: 0.9886
Epoch 00423: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1336 - f1_score: 0.9483 - accuracy: 0.9484 - auc: 0.9887 - val_loss: 0.3730 - val_f1_score: 0.8756 - val_accuracy: 0.8767 - val_auc: 0.9680
Epoch 424/500
50/50 [==============================] - ETA: 0s - loss: 0.1284 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9903
Epoch 00424: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1284 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9903 - val_loss: 0.5853 - val_f1_score: 0.8153 - val_accuracy: 0.8198 - val_auc: 0.9553
Epoch 425/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1133 - f1_score: 0.9521 - accuracy: 0.9522 - auc: 0.9924
Epoch 00425: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1146 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9922 - val_loss: 0.3961 - val_f1_score: 0.8720 - val_accuracy: 0.8733 - val_auc: 0.9703
Epoch 426/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1111 - f1_score: 0.9537 - accuracy: 0.9538 - auc: 0.9927
Epoch 00426: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1109 - f1_score: 0.9540 - accuracy: 0.9541 - auc: 0.9927 - val_loss: 0.2769 - val_f1_score: 0.9020 - val_accuracy: 0.9023 - val_auc: 0.9737
Epoch 427/500
50/50 [==============================] - ETA: 0s - loss: 0.1287 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9897
Epoch 00427: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1287 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9897 - val_loss: 0.3460 - val_f1_score: 0.8871 - val_accuracy: 0.8878 - val_auc: 0.9703
Epoch 428/500
50/50 [==============================] - ETA: 0s - loss: 0.1143 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9926
Epoch 00428: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1143 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9926 - val_loss: 0.3861 - val_f1_score: 0.8718 - val_accuracy: 0.8730 - val_auc: 0.9688
Epoch 429/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1292 - f1_score: 0.9483 - accuracy: 0.9483 - auc: 0.9898
Epoch 00429: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1309 - f1_score: 0.9478 - accuracy: 0.9478 - auc: 0.9895 - val_loss: 0.2706 - val_f1_score: 0.9042 - val_accuracy: 0.9045 - val_auc: 0.9748
Epoch 430/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1260 - f1_score: 0.9512 - accuracy: 0.9512 - auc: 0.9901
Epoch 00430: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1265 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9901 - val_loss: 0.3117 -
val_f1_score: 0.8907 - val_accuracy: 0.8913 - val_auc: 0.9672
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val_f1_score: 0.8907 - val_accuracy: 0.8913 - val_auc: 0.9672
Epoch 431/500
49/50 [============================>.] - ETA: 0s - loss: 0.1066 - f1_score: 0.9582 - accuracy: 0.9582 - auc: 0.9935
Epoch 00431: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1068 - f1_score: 0.9575 - accuracy: 0.9575 - auc: 0.9935 - val_loss: 0.4350 - val_f1_score: 0.8563 - val_accuracy: 0.8583 - val_auc: 0.9672
Epoch 432/500
49/50 [============================>.] - ETA: 0s - loss: 0.1176 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9911
Epoch 00432: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1168 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9913 - val_loss: 0.2875 - val_f1_score: 0.9002 - val_accuracy: 0.9006 - val_auc: 0.9752
Epoch 433/500
49/50 [============================>.] - ETA: 0s - loss: 0.1148 - f1_score: 0.9483 - accuracy: 0.9483 - auc: 0.9918
Epoch 00433: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1151 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9917 - val_loss: 0.4153 - val_f1_score: 0.8704 - val_accuracy: 0.8717 - val_auc: 0.9685
Epoch 434/500
50/50 [==============================] - ETA: 0s - loss: 0.1162 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9925
Epoch 00434: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1162 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9925 - val_loss: 0.3174 - val_f1_score: 0.8880 - val_accuracy: 0.8888 - val_auc: 0.9744
Epoch 435/500
50/50 [==============================] - ETA: 0s - loss: 0.1216 - f1_score: 0.9556 - accuracy: 0.9556 - auc: 0.9909
Epoch 00435: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1216 - f1_score: 0.9556 - accuracy: 0.9556 - auc: 0.9909 - val_loss: 0.3372 - val_f1_score: 0.8863 - val_accuracy: 0.8870 - val_auc: 0.9703
Epoch 436/500
49/50 [============================>.] - ETA: 0s - loss: 0.1116 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9923
Epoch 00436: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1104 - f1_score: 0.9556 - accuracy: 0.9556 - auc: 0.9924 - val_loss: 0.3368 - val_f1_score: 0.8925 - val_accuracy: 0.8931 - val_auc: 0.9725
Epoch 437/500
49/50 [============================>.] - ETA: 0s - loss: 0.1198 - f1_score: 0.9541 - accuracy: 0.9541 - auc: 0.9915
Epoch 00437: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1221 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9911 - val_loss: 0.3280 - val_f1_score: 0.8892 - val_accuracy: 0.8898 - val_auc: 0.9715
Epoch 438/500
49/50 [============================>.] - ETA: 0s - loss: 0.1152 - f1_score: 0.9560 - accuracy: 0.9560 - auc: 0.9916
Epoch 00438: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1146 - f1_score: 0.9556 - accuracy: 0.9556 - auc: 0.9917 - val_loss: 0.2892 - val_f1_score: 0.8993 - val_accuracy: 0.8997 - val_auc: 0.9728
Epoch 439/500
50/50 [==============================] - ETA: 0s - loss: 0.1107 - f1_score: 0.9566 - accuracy: 0.9566 - auc: 0.9929
Epoch 00439: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1107 - f1_score: 0.9566 - accuracy: 0.9566 - auc: 0.9929 - val_loss: 0.3942 - val_f1_score: 0.8807 - val_accuracy: 0.8817 - val_auc: 0.9700
Epoch 440/500
50/50 [==============================] - ETA: 0s - loss: 0.1485 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9872
Epoch 00440: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1485 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9872 - val_loss: 0.4869 - val_f1_score: 0.8505 - val_accuracy: 0.8525 - val_auc: 0.9607
Epoch 441/500
50/50 [==============================] - ETA: 0s - loss: 0.1172 - f1_score: 0.9553 - accuracy: 0.9553 - auc: 0.9917
Epoch 00441: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1172 - f1_score: 0.9553 - accuracy: 0.9553 - auc: 0.9917 - val_loss: 0.2792 - val_f1_score: 0.9062 - val_accuracy: 0.9064 - val_auc: 0.9712
Epoch 442/500
50/50 [==============================] - ETA: 0s - loss: 0.1138 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9912
Epoch 00442: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1138 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9912 - val_loss: 0.3944 - val_f1_score: 0.8690 - val_accuracy: 0.8703 - val_auc: 0.9662
Epoch 443/500
50/50 [==============================] - ETA: 0s - loss: 0.1034 - f1_score: 0.9591 - accuracy: 0.9591 - auc: 0.9941
Epoch 00443: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1034 - f1_score: 0.9591 - accuracy: 0.9591 - auc: 0.9941 - val_loss: 0.3656 - val_f1_score: 0.8820 - val_accuracy: 0.8830 - val_auc: 0.9715
Epoch 444/500
49/50 [============================>.] - ETA: 0s - loss: 0.1223 - f1_score: 0.9493 - accuracy: 0.9493 - auc: 0.9909
Epoch 00444: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1211 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9911 - val_loss: 0.3330 - val_f1_score: 0.8866 - val_accuracy: 0.8875 - val_auc: 0.9739
Epoch 445/500
49/50 [============================>.] - ETA: 0s - loss: 0.1272 - f1_score: 0.9477 - accuracy: 0.9477 - auc: 0.9900
Epoch 00445: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1264 - f1_score: 0.9478 - accuracy: 0.9478 - auc: 0.9902 - val_loss: 0.3065 - val_f1_score: 0.8979 - val_accuracy: 0.8984 - val_auc: 0.9750
Epoch 446/500
49/50 [============================>.] - ETA: 0s - loss: 0.1115 - f1_score: 0.9588 - accuracy: 0.9589 - auc: 0.9922
Epoch 00446: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1113 - f1_score: 0.9590 - accuracy: 0.9591 - auc: 0.9923 - val_loss: 0.3135 - val_f1_score: 0.8955 - val_accuracy: 0.8961 - val_auc: 0.9723
Epoch 447/500
49/50 [============================>.] - ETA: 0s - loss: 0.1152 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9907

Epoch 00447: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1141 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9909 - val_loss: 0.3824 - val_f1_score: 0.8775 - val_accuracy: 0.8786 - val_auc: 0.9681
Epoch 448/500
50/50 [==============================] - ETA: 0s - loss: 0.1295 - f1_score: 0.9453 - accuracy: 0.9453 - auc: 0.9906
Epoch 00448: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1295 - f1_score: 0.9453 - accuracy: 0.9453 - auc: 0.9906 - val_loss: 0.3377 - val_f1_score: 0.8891 - val_accuracy: 0.8898 - val_auc: 0.9723
Epoch 449/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1156 - f1_score: 0.9508 - accuracy: 0.9508 - auc: 0.9911
Epoch 00449: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1154 - f1_score: 0.9516 - accuracy: 0.9516 - auc: 0.9912 - val_loss: 0.3800 - val_f1_score: 0.8727 - val_accuracy: 0.8737 - val_auc: 0.9670
Epoch 450/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1090 - f1_score: 0.9598 - accuracy: 0.9598 - auc: 0.9924
Epoch 00450: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1078 - f1_score: 0.9603 - accuracy: 0.9603 - auc: 0.9925 - val_loss: 0.4220 - val_f1_score: 0.8646 - val_accuracy: 0.8661 - val_auc: 0.9683
Epoch 451/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1111 - f1_score: 0.9598 - accuracy: 0.9598 - auc: 0.9926
Epoch 00451: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1118 - f1_score: 0.9594 - accuracy: 0.9594 - auc: 0.9927 - val_loss: 0.3969 - val_f1_score: 0.8760 - val_accuracy: 0.8770 - val_auc: 0.9695
Epoch 452/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1237 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9913
Epoch 00452: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1253 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9911 - val_loss: 0.2824 - val_f1_score: 0.9077 - val_accuracy: 0.9080 - val_auc: 0.9739
Epoch 453/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1376 - f1_score: 0.9435 - accuracy: 0.9436 - auc: 0.9887
Epoch 00453: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1373 - f1_score: 0.9440 - accuracy: 0.9441 - auc: 0.9887 - val_loss: 0.3213 - val_f1_score: 0.8891 - val_accuracy: 0.8897 - val_auc: 0.9697
Epoch 454/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1223 - f1_score: 0.9512 - accuracy: 0.9512 - auc: 0.9906
Epoch 00454: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1233 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9905 - val_loss: 0.4100 - val_f1_score: 0.8648 - val_accuracy: 0.8664 - val_auc: 0.9680
Epoch 455/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1128 - f1_score: 0.9573 - accuracy: 0.9574 - auc: 0.9921
Epoch 00455: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1173 - f1_score: 0.9556 - accuracy: 0.9556 - auc: 0.9914 - val_loss: 0.3071 - val_f1_score: 0.8945 - val_accuracy: 0.8950 - val_auc: 0.9716
Epoch 456/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1384 - f1_score: 0.9474 - accuracy: 0.9474 - auc: 0.9885
Epoch 00456: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1365 - f1_score: 0.9481 - accuracy: 0.9481 - auc: 0.9887 - val_loss: 0.3477 - val_f1_score: 0.8836 - val_accuracy: 0.8844 - val_auc: 0.9690
Epoch 457/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1092 - f1_score: 0.9560 - accuracy: 0.9560 - auc: 0.9929
Epoch 00457: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1085 - f1_score: 0.9566 - accuracy: 0.9566 - auc: 0.9930 - val_loss: 0.3161 - val_f1_score: 0.8920 - val_accuracy: 0.8925 - val_auc: 0.9704
Epoch 458/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1051 - f1_score: 0.9589 - accuracy: 0.9589 - auc: 0.9938
Epoch 00458: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1053 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9939 - val_loss: 0.3240 - val_f1_score: 0.8966 - val_accuracy: 0.8970 - val_auc: 0.9722
Epoch 459/500
47/50 [===========================>..] - ETA: 0s - loss: 0.1049 - f1_score: 0.9577 - accuracy: 0.9578 - auc: 0.9934
Epoch 00459: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1046 - f1_score: 0.9584 - accuracy: 0.9584 - auc: 0.9933 - val_loss: 0.3843 - val_f1_score: 0.8793 - val_accuracy: 0.8802 - val_auc: 0.9662
Epoch 460/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1031 - f1_score: 0.9592 - accuracy: 0.9592 - auc: 0.9932
Epoch 00460: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1033 - f1_score: 0.9590 - accuracy: 0.9591 - auc: 0.9931 - val_loss: 0.3343 - val_f1_score: 0.8856 - val_accuracy: 0.8863 - val_auc: 0.9689
Epoch 461/500
48/50 [==========================>..] - ETA: 0s - loss: 0.1204 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9912
Epoch 00461: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1228 - f1_score: 0.9515 - accuracy: 0.9516 - auc: 0.9908 - val_loss: 0.3441 - val_f1_score: 0.8875 - val_accuracy: 0.8883 - val_auc: 0.9738
Epoch 462/500
50/50 [==============================] - ETA: 0s - loss: 0.1260 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9906
Epoch 00462: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1260 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9906 - val_loss: 0.4273 - val_f1_score: 0.8589 - val_accuracy: 0.8608 - val_auc: 0.9712
Epoch 463/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1106 - f1_score: 0.9573 - accuracy: 0.9573 - auc: 0.9925
Epoch 00463: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1107 - f1_score: 0.9572 - accuracy: 0.9572 - auc: 0.9925 - val_loss: 0.3090 - val_f1_score: 0.8952 - val_accuracy: 0.8958 - val_auc: 0.9745

Epoch 464/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1085 - f1_score: 0.9576 - accuracy: 0.9576 - auc: 0.9929
Epoch 00464: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1079 - f1_score: 0.9575 - accuracy: 0.9575 - auc: 0.9930 - val_loss: 0.3278 - val_f1_score: 0.8865 - val_accuracy: 0.8872 - val_auc: 0.9704
Epoch 465/500
49/50 [=============================>.] - ETA: 0s - loss: 0.0968 - f1_score: 0.9605 - accuracy: 0.9605 - auc: 0.9945
Epoch 00465: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.0964 - f1_score: 0.9603 - accuracy: 0.9603 - auc: 0.9946 - val_loss: 0.2965 - val_f1_score: 0.9013 - val_accuracy: 0.9016 - val_auc: 0.9727
Epoch 466/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1169 - f1_score: 0.9518 - accuracy: 0.9518 - auc: 0.9916
Epoch 00466: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1204 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9912 - val_loss: 0.3238 - val_f1_score: 0.8823 - val_accuracy: 0.8830 - val_auc: 0.9687
Epoch 467/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1160 - f1_score: 0.9515 - accuracy: 0.9515 - auc: 0.9923
Epoch 00467: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1157 - f1_score: 0.9512 - accuracy: 0.9513 - auc: 0.9924 - val_loss: 0.3073 - val_f1_score: 0.9005 - val_accuracy: 0.9009 - val_auc: 0.9701
Epoch 468/500
50/50 [==============================] - ETA: 0s - loss: 0.1006 - f1_score: 0.9631 - accuracy: 0.9631 - auc: 0.9941
Epoch 00468: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1006 - f1_score: 0.9631 - accuracy: 0.9631 - auc: 0.9941 - val_loss: 0.3306 - val_f1_score: 0.8962 - val_accuracy: 0.8967 - val_auc: 0.9731
Epoch 469/500
50/50 [==============================] - ETA: 0s - loss: 0.1243 - f1_score: 0.9503 - accuracy: 0.9503 - auc: 0.9911
Epoch 00469: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1243 - f1_score: 0.9503 - accuracy: 0.9503 - auc: 0.9911 - val_loss: 0.3527 - val_f1_score: 0.8941 - val_accuracy: 0.8947 - val_auc: 0.9715
Epoch 470/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1124 - f1_score: 0.9553 - accuracy: 0.9554 - auc: 0.9925
Epoch 00470: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1154 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9921 - val_loss: 0.3410 - val_f1_score: 0.8878 - val_accuracy: 0.8886 - val_auc: 0.9722
Epoch 471/500
50/50 [==============================] - ETA: 0s - loss: 0.1337 - f1_score: 0.9490 - accuracy: 0.9491 - auc: 0.9896
Epoch 00471: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1337 - f1_score: 0.9490 - accuracy: 0.9491 - auc: 0.9896 - val_loss: 0.2984 - val_f1_score: 0.8977 - val_accuracy: 0.8981 - val_auc: 0.9728
Epoch 472/500
50/50 [==============================] - ETA: 0s - loss: 0.1250 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9914
Epoch 00472: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 37ms/step - loss: 0.1250 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9914 - val_loss: 0.2712 - val_f1_score: 0.9058 - val_accuracy: 0.9061 - val_auc: 0.9752
Epoch 473/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1064 - f1_score: 0.9576 - accuracy: 0.9576 - auc: 0.9932
Epoch 00473: val_accuracy did not improve from 0.91109
50/50 [==============================] - 2s 36ms/step - loss: 0.1075 - f1_score: 0.9569 - accuracy: 0.9569 - auc: 0.9932 - val_loss: 0.3223 - val_f1_score: 0.8921 - val_accuracy: 0.8927 - val_auc: 0.9708
Epoch 474/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1105 - f1_score: 0.9557 - accuracy: 0.9557 - auc: 0.9930
Epoch 00474: val_accuracy improved from 0.91109 to 0.91125, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 44ms/step - loss: 0.1103 - f1_score: 0.9553 - accuracy: 0.9553 - auc: 0.9930 - val_loss: 0.2585 - val_f1_score: 0.9111 - val_accuracy: 0.9112 - val_auc: 0.9746
Epoch 475/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1046 - f1_score: 0.9579 - accuracy: 0.9579 - auc: 0.9943
Epoch 00475: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1070 - f1_score: 0.9575 - accuracy: 0.9575 - auc: 0.9940 - val_loss: 0.3226 - val_f1_score: 0.8921 - val_accuracy: 0.8927 - val_auc: 0.9720
Epoch 476/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1132 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9924
Epoch 00476: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1136 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9924 - val_loss: 0.3146 - val_f1_score: 0.8915 - val_accuracy: 0.8919 - val_auc: 0.9660
Epoch 477/500
50/50 [==============================] - ETA: 0s - loss: 0.1182 - f1_score: 0.9540 - accuracy: 0.9541 - auc: 0.9919
Epoch 00477: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1182 - f1_score: 0.9540 - accuracy: 0.9541 - auc: 0.9919 - val_loss: 0.2856 - val_f1_score: 0.9047 - val_accuracy: 0.9050 - val_auc: 0.9729
Epoch 478/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1227 - f1_score: 0.9531 - accuracy: 0.9531 - auc: 0.9907
Epoch 00478: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1243 - f1_score: 0.9531 - accuracy: 0.9531 - auc: 0.9906 - val_loss: 0.2881 - val_f1_score: 0.9026 - val_accuracy: 0.9030 - val_auc: 0.9754
Epoch 479/500
49/50 [=============================>.] - ETA: 0s - loss: 0.1181 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9919
Epoch 00479: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1167 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9920 - val_loss: 0.3334 - val_f1_score: 0.8878 - val_accuracy: 0.8886 - val_auc: 0.9721
Epoch 480/500
49/50 [=============================>.] - ETA: 0s - loss: 0.0992 - f1_score: 0.9595 - accuracy: 0.9595 - auc: 0.9939

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Epoch 00480: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1000 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9938 - val_loss: 0.2904 -
val_f1_score: 0.9038 - val_accuracy: 0.9041 - val_auc: 0.9716
Epoch 481/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1230 - f1_score: 0.9518 - accuracy: 0.9518 - auc: 0.9907
Epoch 00481: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1241 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9906 - val_loss: 0.3211 -
val_f1_score: 0.8982 - val_accuracy: 0.8988 - val_auc: 0.9719
Epoch 482/500
49/50 [============================>.] - ETA: 0s - loss: 0.1263 - f1_score: 0.9495 - accuracy: 0.9496 - auc: 0.9906
Epoch 00482: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 36ms/step - loss: 0.1267 - f1_score: 0.9496 - accuracy: 0.9497 - auc: 0.9907 - val_loss: 0.3079 -
val_f1_score: 0.9048 - val_accuracy: 0.9052 - val_auc: 0.9743
Epoch 483/500
49/50 [============================>.] - ETA: 0s - loss: 0.1285 - f1_score: 0.9493 - accuracy: 0.9493 - auc: 0.9908
Epoch 00483: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1277 - f1_score: 0.9497 - accuracy: 0.9497 - auc: 0.9910 - val_loss: 0.3729 -
val_f1_score: 0.8854 - val_accuracy: 0.8863 - val_auc: 0.9662
Epoch 484/500
49/50 [============================>.] - ETA: 0s - loss: 0.1141 - f1_score: 0.9560 - accuracy: 0.9560 - auc: 0.9927
Epoch 00484: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1135 - f1_score: 0.9562 - accuracy: 0.9563 - auc: 0.9928 - val_loss: 0.2966 -
val_f1_score: 0.9014 - val_accuracy: 0.9017 - val_auc: 0.9698
Epoch 485/500
49/50 [============================>.] - ETA: 0s - loss: 0.1086 - f1_score: 0.9554 - accuracy: 0.9554 - auc: 0.9933
Epoch 00485: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1085 - f1_score: 0.9553 - accuracy: 0.9553 - auc: 0.9934 - val_loss: 0.3901 -
val_f1_score: 0.8796 - val_accuracy: 0.8806 - val_auc: 0.9698
Epoch 486/500
49/50 [============================>.] - ETA: 0s - loss: 0.1164 - f1_score: 0.9560 - accuracy: 0.9560 - auc: 0.9916
Epoch 00486: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1170 - f1_score: 0.9559 - accuracy: 0.9559 - auc: 0.9915 - val_loss: 0.3824 -
val_f1_score: 0.8805 - val_accuracy: 0.8813 - val_auc: 0.9627
Epoch 487/500
49/50 [============================>.] - ETA: 0s - loss: 0.1073 - f1_score: 0.9595 - accuracy: 0.9595 - auc: 0.9930
Epoch 00487: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1122 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9922 - val_loss: 0.3310 -
val_f1_score: 0.8946 - val_accuracy: 0.8953 - val_auc: 0.9752
Epoch 488/500
49/50 [============================>.] - ETA: 0s - loss: 0.1072 - f1_score: 0.9592 - accuracy: 0.9592 - auc: 0.9928
Epoch 00488: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1068 - f1_score: 0.9588 - accuracy: 0.9588 - auc: 0.9928 - val_loss: 0.4138 -
val_f1_score: 0.8690 - val_accuracy: 0.8705 - val_auc: 0.9696
Epoch 489/500
50/50 [==============================] - ETA: 0s - loss: 0.0948 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9946
Epoch 00489: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.0948 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9946 - val_loss: 0.2864 -
val_f1_score: 0.9034 - val_accuracy: 0.9038 - val_auc: 0.9750
Epoch 490/500
50/50 [==============================] - ETA: 0s - loss: 0.1086 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9932
Epoch 00490: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1086 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9932 - val_loss: 0.3397 -
val_f1_score: 0.8889 - val_accuracy: 0.8895 - val_auc: 0.9714
Epoch 491/500
50/50 [==============================] - ETA: 0s - loss: 0.1002 - f1_score: 0.9603 - accuracy: 0.9603 - auc: 0.9943
Epoch 00491: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1002 - f1_score: 0.9603 - accuracy: 0.9603 - auc: 0.9943 - val_loss: 0.3169 -
val_f1_score: 0.9016 - val_accuracy: 0.9020 - val_auc: 0.9736
Epoch 492/500
50/50 [==============================] - ETA: 0s - loss: 0.0973 - f1_score: 0.9581 - accuracy: 0.9581 - auc: 0.9941
Epoch 00492: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.0973 - f1_score: 0.9581 - accuracy: 0.9581 - auc: 0.9941 - val_loss: 0.3095 -
val_f1_score: 0.9021 - val_accuracy: 0.9025 - val_auc: 0.9743
Epoch 493/500
50/50 [==============================] - ETA: 0s - loss: 0.1042 - f1_score: 0.9597 - accuracy: 0.9597 - auc: 0.9936
Epoch 00493: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1042 - f1_score: 0.9597 - accuracy: 0.9597 - auc: 0.9936 - val_loss: 0.3473 -
val_f1_score: 0.8925 - val_accuracy: 0.8931 - val_auc: 0.9720
Epoch 494/500
50/50 [==============================] - ETA: 0s - loss: 0.1167 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9915
Epoch 00494: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1167 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9915 - val_loss: 0.2751 -
val_f1_score: 0.9087 - val_accuracy: 0.9089 - val_auc: 0.9736
Epoch 495/500
50/50 [==============================] - ETA: 0s - loss: 0.1187 - f1_score: 0.9541 - accuracy: 0.9541 - auc: 0.9922
Epoch 00495: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1187 - f1_score: 0.9541 - accuracy: 0.9541 - auc: 0.9922 - val_loss: 0.3173 -
val_f1_score: 0.8931 - val_accuracy: 0.8936 - val_auc: 0.9709
Epoch 496/500
48/50 [===========================>..] - ETA: 0s - loss: 0.1154 - f1_score: 0.9538 - accuracy: 0.9538 - auc: 0.9912
Epoch 00496: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.1172 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9911 - val_loss: 0.3141 -
val_f1_score: 0.8956 - val_accuracy: 0.8961 - val_auc: 0.9733
```

Epoch 497/500
49/50 [============================>.] - ETA: 0s - loss: 0.0986 - f1_score: 0.9617 - accuracy: 0.9617 - auc: 0.9939
Epoch 00497: val_accuracy did not improve from 0.91125
50/50 [==============================] - 2s 37ms/step - loss: 0.0979 - f1_score: 0.9622 - accuracy: 0.9622 - auc: 0.9939 - val_loss: 0.3854 - val_f1_score: 0.8715 - val_accuracy: 0.8728 - val_auc: 0.9700
Epoch 498/500
50/50 [==============================] - ETA: 0s - loss: 0.1182 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9915
Epoch 00498: val_accuracy improved from 0.91125 to 0.91422, saving model to /gdrive/My Drive/CG_FACE_Classifier.h5
50/50 [==============================] - 2s 43ms/step - loss: 0.1182 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9915 - val_loss: 0.2741 - val_f1_score: 0.9141 - val_accuracy: 0.9142 - val_auc: 0.9728
Epoch 499/500
50/50 [==============================] - ETA: 0s - loss: 0.1237 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9911
Epoch 00499: val_accuracy did not improve from 0.91422
50/50 [==============================] - 2s 37ms/step - loss: 0.1237 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9911 - val_loss: 0.3446 - val_f1_score: 0.8877 - val_accuracy: 0.8884 - val_auc: 0.9718
Epoch 500/500
50/50 [==============================] - ETA: 0s - loss: 0.1156 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9914
Epoch 00500: val_accuracy did not improve from 0.91422
50/50 [==============================] - 2s 37ms/step - loss: 0.1156 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9914 - val_loss: 0.2756 - val_f1_score: 0.9059 - val_accuracy: 0.9062 - val_auc: 0.9768

Out[0]:

<tensorflow.python.keras.callbacks.History at 0x7f79a277dda0>
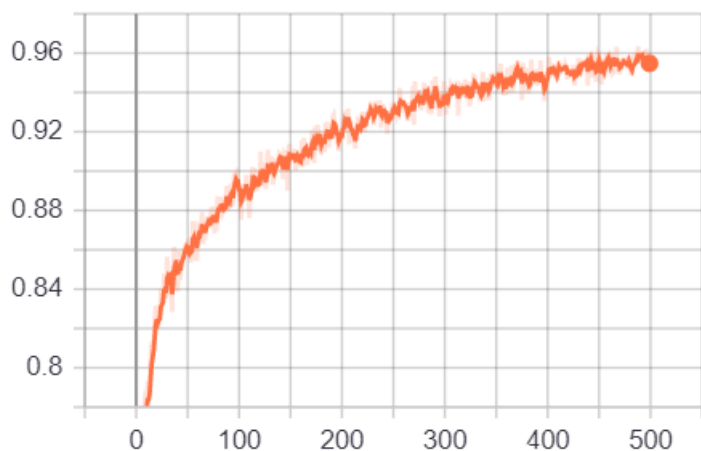
14. Visualizing the result from CG_Face.

14.1 Train accuracy

In [23]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\train_accuracy.PNG")
```

Out[23]:

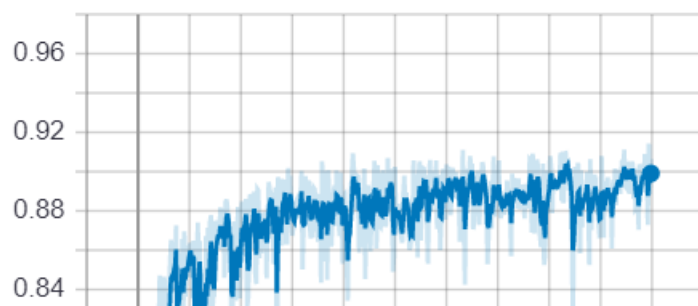### 14.2 Validation accuracy

In [24]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\cv_accuracy.PNG")
```

Out[24]:

14.3 Train AUC
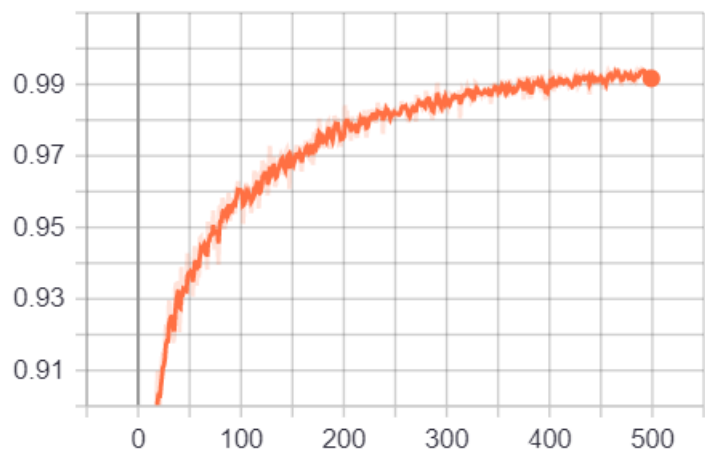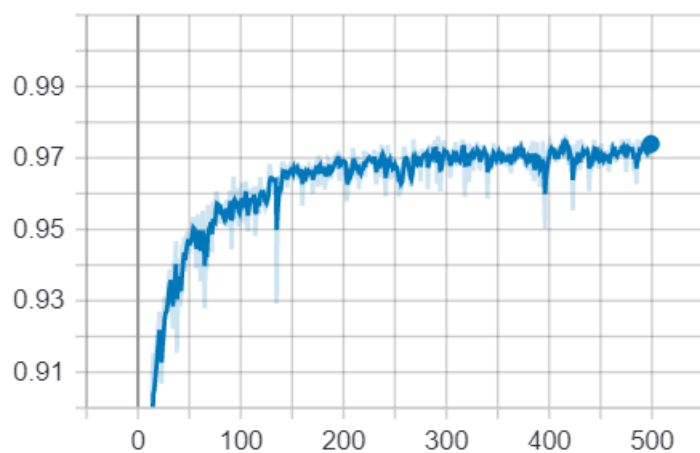
```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\train_auc.PNG")
```

epoch_auc

14.4 Validation AUC

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\cv_auc.PNG")
```
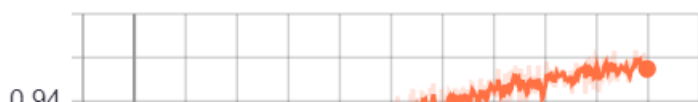
epoch_auc

14.5 Train f1_score

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\train_f1.PNG")
```
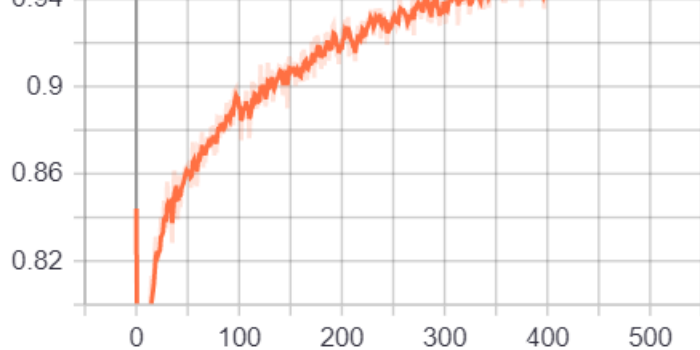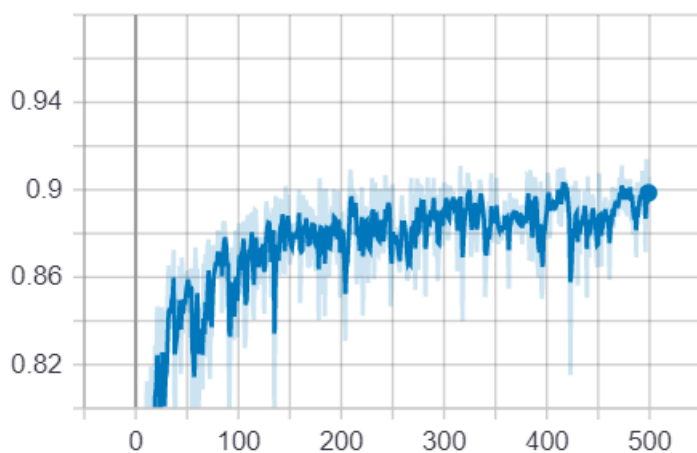
epoch_f1_score

0.9

0.86

0.82

0   100   200   300   400   500

14.6 Validation f1

Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\cv_f1.PNG")

Out[28]:

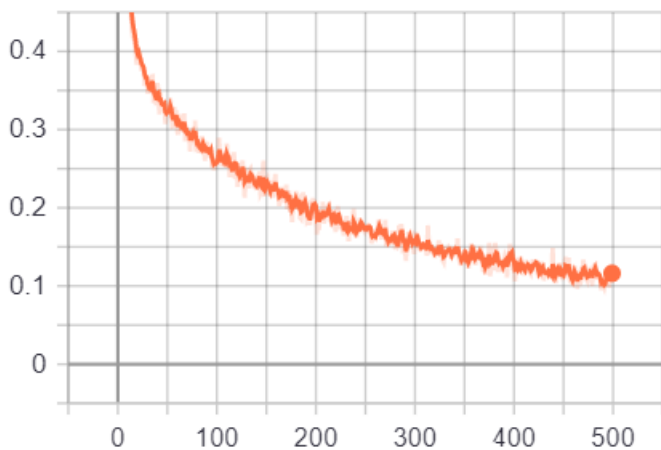epoch_f1_score

0.94

0.9

0.86

0.82

0   100   200   300   400   500

14.7 Train loss

In [29]:

Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\train_loss.PNG")

Out[29]:

epoch_loss

0.4

0.3
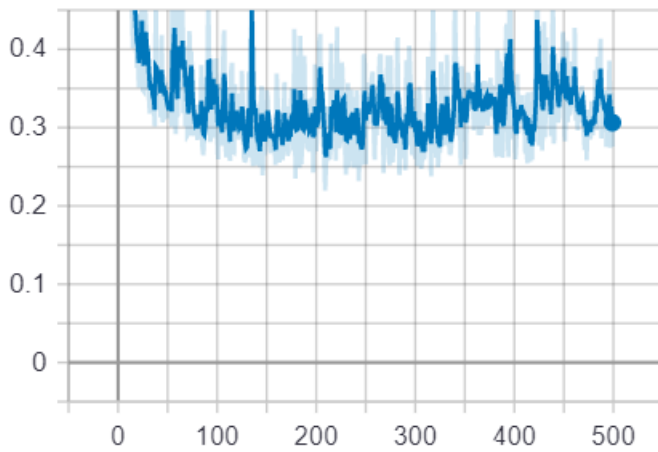
0.2

0.1

0

0   100   200   300   400   500

14.8 Validation loss

In [30]:

Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cg_face\\cv_loss.PNG")

Out[30]:

epoch_loss

15. Load the best CG_Face and evaluate the result

In [0]:

```
Model.load_weights('/gdrive/My Drive/CG_FACE_Classifier.h5')
```

In [0]:

```
result = Model.evaluate(X_test , y_test )
dict(zip(Model.metrics_names, result))
```
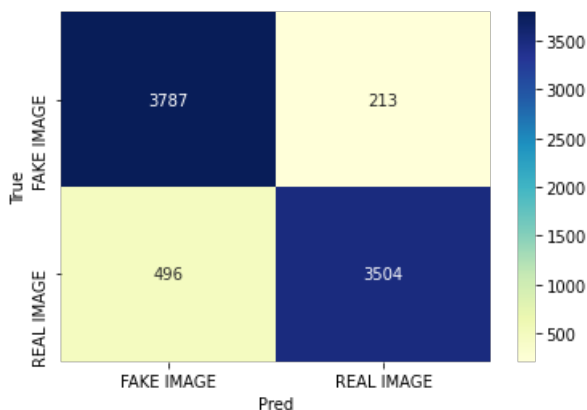
250/250 [==============================] - 2s 8ms/step - loss: 0.2859 - f1_score: 0.9113 - accuracy: 0.9114 - auc: 0.9707

Out[0]:

```
{'accuracy': 0.9113749861717224,
 'auc': 0.9707314968109131,
 'f1_score': 0.9112639427185059,
 'loss': 0.2859393358230591}
```

In [0]:

```
df = pd.DataFrame(confusion_matrix(y_test , Model.predict(X_test)))
ax = sns.heatmap(df , annot=True , fmt="d" , cmap="YlGnBu")
```


16. Upgrading the CG_Face with introducing the gram block

The concept of gram block is taken from this research paper https://openreview.net/forum?id=HyxcZT4KwB

IN the paper they found that for the facial image classification the texture features play an important role due to this they introduced the gram block in their existing resnet architecture and they found that gram block increased the performance of the resnet on the facial image data.

In [35]:

Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\Vgg16_result\\gram_net.PNG")

Out[35]:

In [0]:
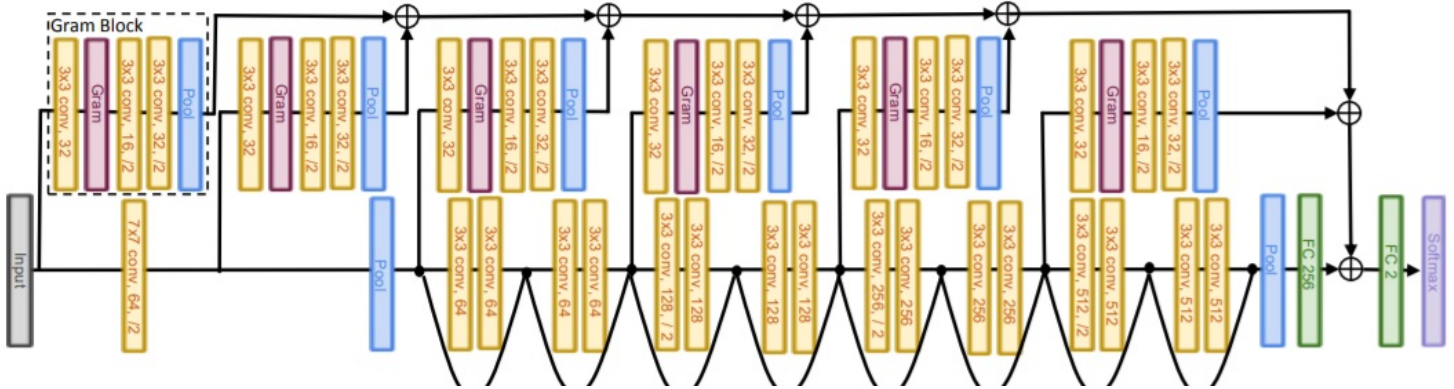
```
%tensorboard --logdir "/gdrive/My Drive/logs"
```

17. Creating model

In [0]:

```python
def create_model3(img_size , channel):

  inputs = tf.keras.Input(shape=(img_size, img_size , channel))

  #gram block 1
  gram11 = Conv2D(32, (3, 3), activation=tf.nn.relu)(inputs)
  gram12 = tf.matmul(gram11 , gram11 , transpose_b= True)
  gram13 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(2 , 2))(gram12)
  gram14 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(2 , 2))(gram13)
  gram15 = MaxPooling2D()(gram14)
  gram16 = tf.keras.layers.Flatten()(gram15)


  layer_1 = Conv2D(8, (5, 5), activation=tf.nn.relu)(inputs)

  #gram block 2
  gram21 = Conv2D(32, (3, 3), activation=tf.nn.relu)(layer_1)
  gram22 = tf.matmul(gram21 , gram21 , transpose_b= True)
  gram23 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(2 , 2))(gram22)
  gram24 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(2 , 2))(gram23)
  gram25 = MaxPooling2D()(gram24)
  gram26 = tf.keras.layers.Flatten()(gram25)


  layer_2 = Conv2D(8, (5, 5), activation=tf.nn.relu)(layer_1)

  max_1 = MaxPooling2D()(layer_2)

  drop_1 = Dropout(0.2)(max_1)

  layer_3 = Conv2D(16, (3, 3), activation=tf.nn.relu)(drop_1)

  #gram block 3
  gram31 = Conv2D(32, (3, 3), activation=tf.nn.relu)(layer_3)
  gram32 = tf.matmul(gram31 , gram31 , transpose_b= True)
  gram33 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(2 , 2))(gram32)
  gram34 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(2 , 2))(gram33)
  gram35 = MaxPooling2D()(gram34)
  gram36 = tf.keras.layers.Flatten()(gram35)


  max_2  = MaxPooling2D( )(layer_3)

  drop_2 = Dropout(0.2)(max_2)

  layer_4 = Conv2D(32, (3, 3), activation=tf.nn.relu)(drop_2)

  #gram block 4
  gram41 = Conv2D(32, (3, 3), activation=tf.nn.relu)(layer_4)
  gram42 = tf.matmul(gram41 , gram41 , transpose_b= True)
  gram43 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(1 , 1))(gram42)
```

```
gram44 = Conv2D(16, (3, 3), activation=tf.nn.relu , strides=(1 , 1))(gram43)
gram45 = MaxPooling2D()(gram44)
gram46 = tf.keras.layers.Flatten()(gram45)

max_3  = MaxPooling2D( )(layer_4)

drop_3  = Dropout(0.2)(max_3)

layer_5 = Conv2D(64, (3, 3), activation=tf.nn.relu)(drop_3)

#gram block 4
#gram51 = Conv2D(32, (3, 3), activation=tf.nn.relu)(layer_5)
#gram52 = tf.matmul(gram51 , gram51 , transpose_b= True)
#gram53 = Conv2D(16, (1, 1), activation=tf.nn.relu , strides=(1 , 1))(gram52)
#gram54 = Conv2D(16, (1, 1), activation=tf.nn.relu , strides=(1 , 1))(gram53)
#gram55 = MaxPooling2D()(gram54)
#gram56 = tf.keras.layers.Flatten()(gram54)

batch = BatchNormalization()(layer_5)

flat = tf.keras.layers.Flatten()(batch)

dense_1 =  Dense(256 , activation=tf.nn.relu)(flat)

concat = tf.keras.layers.concatenate([dense_1 , gram16  , gram26 , gram36 , gram46 ])

dense_2 =  Dense(2 , activation=tf.nn.softmax)(concat)

model = tf.keras.Model(inputs = inputs , outputs = dense_2)

return model
```

In [0]:

```
model = create_model3(64 , 1)
model.summary()
```

Model: "model"

Layer (type)	Output Shape	Param #	Connected to
input_1 (InputLayer)	[(None, 64, 64, 1)]	0	
conv2d_44 (Conv2D)	(None, 60, 60, 8)	208	input_1[0][0]
conv2d_48 (Conv2D)	(None, 56, 56, 8)	1608	conv2d_44[0][0]
max_pooling2d_21 (MaxPooling2D)	(None, 28, 28, 8)	0	conv2d_48[0][0]
dropout_9 (Dropout)	(None, 28, 28, 8)	0	max_pooling2d_21[0][0]
conv2d_49 (Conv2D)	(None, 26, 26, 16)	1168	dropout_9[0][0]
max_pooling2d_23 (MaxPooling2D)	(None, 13, 13, 16)	0	conv2d_49[0][0]
dropout_10 (Dropout)	(None, 13, 13, 16)	0	max_pooling2d_23[0][0]
conv2d_53 (Conv2D)	(None, 11, 11, 32)	4640	dropout_10[0][0]
max_pooling2d_25 (MaxPooling2D)	(None, 5, 5, 32)	0	conv2d_53[0][0]
conv2d_41 (Conv2D)	(None, 62, 62, 32)	320	input_1[0][0]
conv2d_45 (Conv2D)	(None, 58, 58, 32)	2336	conv2d_44[0][0]
conv2d_50 (Conv2D)	(None, 24, 24, 32)	4640	conv2d_49[0][0]
conv2d_54 (Conv2D)	(None, 9, 9, 32)	9248	conv2d_53[0][0]
dropout_11 (Dropout)	(None, 5, 5, 32)	0	max_pooling2d_25[0][0]
tf_op_layer_BatchMatMulV2 (Tens	[(None, 62, 62, 62)]	0	conv2d_41[0][0] conv2d_41[0][0]
tf_op_layer_BatchMatMulV2_1 (Te	[(None, 58, 58, 58)]	0	conv2d_45[0][0] conv2d_45[0][0]
tf_op_layer_BatchMatMulV2_2 (Te	[(None, 24, 24, 24)]	0	conv2d_50[0][0] conv2d_50[0][0]
tf_op_layer_BatchMatMulV2_3 (Te	[(None, 9, 9, 9)]	0	conv2d_54[0][0]

```
                                                 conv2d_54[0][0]
_____
conv2d_57 (Conv2D)              (None, 3, 3, 64)     18496       dropout_11[0][0]
_____
conv2d_42 (Conv2D)              (None, 30, 30, 16)   8944        tf_op_layer_BatchMatMulV2[0][0]
_____
conv2d_46 (Conv2D)              (None, 28, 28, 16)   8368        tf_op_layer_BatchMatMulV2_1[0][0]
_____
conv2d_51 (Conv2D)              (None, 11, 11, 16)   3472        tf_op_layer_BatchMatMulV2_2[0][0]
_____
conv2d_55 (Conv2D)              (None, 7, 7, 16)     1312        tf_op_layer_BatchMatMulV2_3[0][0]
_____
batch_normalization_7 (BatchNor (None, 3, 3, 64)     256         conv2d_57[0][0]
_____
conv2d_43 (Conv2D)              (None, 14, 14, 16)   2320        conv2d_42[0][0]
_____
conv2d_47 (Conv2D)              (None, 13, 13, 16)   2320        conv2d_46[0][0]
_____
conv2d_52 (Conv2D)              (None, 5, 5, 16)     2320        conv2d_51[0][0]
_____
conv2d_56 (Conv2D)              (None, 5, 5, 16)     2320        conv2d_55[0][0]
_____
flatten_9 (Flatten)             (None, 576)          0           batch_normalization_7[0][0]
_____
max_pooling2d_19 (MaxPooling2D) (None, 7, 7, 16)     0           conv2d_43[0][0]
_____
max_pooling2d_20 (MaxPooling2D) (None, 6, 6, 16)     0           conv2d_47[0][0]
_____
max_pooling2d_22 (MaxPooling2D) (None, 2, 2, 16)     0           conv2d_52[0][0]
_____
max_pooling2d_24 (MaxPooling2D) (None, 2, 2, 16)     0           conv2d_56[0][0]
_____
dense_12 (Dense)                (None, 256)          147712      flatten_9[0][0]
_____
flatten_5 (Flatten)             (None, 784)          0           max_pooling2d_19[0][0]
_____
flatten_6 (Flatten)             (None, 576)          0           max_pooling2d_20[0][0]
_____
flatten_7 (Flatten)             (None, 64)           0           max_pooling2d_22[0][0]
_____
flatten_8 (Flatten)             (None, 64)           0           max_pooling2d_24[0][0]
_____
concatenate (Concatenate)       (None, 1744)         0           dense_12[0][0]
                                                                 flatten_5[0][0]
                                                                 flatten_6[0][0]
                                                                 flatten_7[0][0]
                                                                 flatten_8[0][0]
_____
dense_13 (Dense)                (None, 2)            3490        concatenate[0][0]
================================================================================================
Total params: 225,498
Trainable params: 225,370
Non-trainable params: 128
_____
```

In [0]:

```
%tensorboard --logdir "/gdrive/My Drive/logs"
```

Output hidden; open in https://colab.research.google.com to view.

In [0]:

```python
logdir = "/gdrive/My Drive/logs"
tensorboard_callback = tf.keras.callbacks.TensorBoard(log_dir = logdir, histogram_freq=1)
filepath = "/gdrive/My Drive/CG_Face_Modified.h5"
checkpoint = ModelCheckpoint(filepath=filepath,
                 monitor='val_accuracy',
                 verbose=1,
                 save_best_only=True , mode = "max")
model.compile(optimizer=Adam(0.001 ),
         loss=binary_crossentropy,
         metrics=[f1_score , 'accuracy' , auc])
```

In [0]:

```python
model.fit(X_train, y_train, batch_size = 64,
      epochs=500,
      validation_data=(X_cv, y_cv),steps_per_epoch=50,
```

```
         callbacks = [tensorboard_callback , checkpoint])
         #class_weight = {0:class_weights[0] , 1:class_weights[1]})
```

Epoch 1/500
 2/50 [>.............................] - ETA: 7s - loss: 0.7225 - f1_score: 0.9055 - accuracy: 0.5469 - auc: 0.5476WARNING:tensorflow:Method (on_train_batc
h_end) is slow compared to the batch update (0.110225). Check your callbacks.
50/50 [==============================] - ETA: 0s - loss: 0.6234 - f1_score: 0.8375 - accuracy: 0.6538 - auc: 0.7269
Epoch 00001: val_accuracy improved from -inf to 0.63578, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 8s 156ms/step - loss: 0.6234 - f1_score: 0.8375 - accuracy: 0.6538 - auc: 0.7269 - val_loss: 0.6721
- val_f1_score: 0.6177 - val_accuracy: 0.6358 - val_auc: 0.7318
Epoch 2/500
50/50 [==============================] - ETA: 0s - loss: 0.5510 - f1_score: 0.7200 - accuracy: 0.7200 - auc: 0.8066
Epoch 00002: val_accuracy improved from 0.63578 to 0.64219, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.5510 - f1_score: 0.7200 - accuracy: 0.7200 - auc: 0.8066 - val_loss: 0.6035
- val_f1_score: 0.5988 - val_accuracy: 0.6422 - val_auc: 0.8424
Epoch 3/500
50/50 [==============================] - ETA: 0s - loss: 0.4965 - f1_score: 0.7577 - accuracy: 0.7581 - auc: 0.8440
Epoch 00003: val_accuracy improved from 0.64219 to 0.77328, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.4965 - f1_score: 0.7577 - accuracy: 0.7581 - auc: 0.8440 - val_loss: 0.4973
- val_f1_score: 0.7725 - val_accuracy: 0.7733 - val_auc: 0.8533
Epoch 4/500
50/50 [==============================] - ETA: 0s - loss: 0.4803 - f1_score: 0.7801 - accuracy: 0.7803 - auc: 0.8672
Epoch 00004: val_accuracy did not improve from 0.77328
50/50 [==============================] - 7s 139ms/step - loss: 0.4803 - f1_score: 0.7801 - accuracy: 0.7803 - auc: 0.8672 - val_loss: 0.5454
- val_f1_score: 0.7674 - val_accuracy: 0.7713 - val_auc: 0.8797
Epoch 5/500
50/50 [==============================] - ETA: 0s - loss: 0.4560 - f1_score: 0.7921 - accuracy: 0.7925 - auc: 0.8733
Epoch 00005: val_accuracy improved from 0.77328 to 0.80172, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.4560 - f1_score: 0.7921 - accuracy: 0.7925 - auc: 0.8733 - val_loss: 0.4776
- val_f1_score: 0.8013 - val_accuracy: 0.8017 - val_auc: 0.8819
Epoch 6/500
50/50 [==============================] - ETA: 0s - loss: 0.4471 - f1_score: 0.7987 - accuracy: 0.7987 - auc: 0.8772
Epoch 00006: val_accuracy did not improve from 0.80172
50/50 [==============================] - 7s 140ms/step - loss: 0.4471 - f1_score: 0.7987 - accuracy: 0.7987 - auc: 0.8772 - val_loss: 0.4423
- val_f1_score: 0.7797 - val_accuracy: 0.7827 - val_auc: 0.8947
Epoch 7/500
50/50 [==============================] - ETA: 0s - loss: 0.4311 - f1_score: 0.7953 - accuracy: 0.7956 - auc: 0.8890
Epoch 00007: val_accuracy improved from 0.80172 to 0.81547, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.4311 - f1_score: 0.7953 - accuracy: 0.7956 - auc: 0.8890 - val_loss: 0.4269
- val_f1_score: 0.8150 - val_accuracy: 0.8155 - val_auc: 0.9028
Epoch 8/500
50/50 [==============================] - ETA: 0s - loss: 0.4022 - f1_score: 0.8234 - accuracy: 0.8234 - auc: 0.9052
Epoch 00008: val_accuracy improved from 0.81547 to 0.83219, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.4022 - f1_score: 0.8234 - accuracy: 0.8234 - auc: 0.9052 - val_loss: 0.4082
- val_f1_score: 0.8321 - val_accuracy: 0.8322 - val_auc: 0.9086
Epoch 9/500
50/50 [==============================] - ETA: 0s - loss: 0.3996 - f1_score: 0.8311 - accuracy: 0.8313 - auc: 0.9078
Epoch 00009: val_accuracy did not improve from 0.83219
50/50 [==============================] - 7s 138ms/step - loss: 0.3996 - f1_score: 0.8311 - accuracy: 0.8313 - auc: 0.9078 - val_loss: 0.3822
- val_f1_score: 0.8305 - val_accuracy: 0.8309 - val_auc: 0.9142
Epoch 10/500
50/50 [==============================] - ETA: 0s - loss: 0.4046 - f1_score: 0.8202 - accuracy: 0.8203 - auc: 0.9033
Epoch 00010: val_accuracy did not improve from 0.83219
50/50 [==============================] - 7s 138ms/step - loss: 0.4046 - f1_score: 0.8202 - accuracy: 0.8203 - auc: 0.9033 - val_loss: 0.4276
- val_f1_score: 0.8092 - val_accuracy: 0.8120 - val_auc: 0.9110
Epoch 11/500
50/50 [==============================] - ETA: 0s - loss: 0.3863 - f1_score: 0.8286 - accuracy: 0.8288 - auc: 0.9097
Epoch 00011: val_accuracy improved from 0.83219 to 0.84141, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.3863 - f1_score: 0.8286 - accuracy: 0.8288 - auc: 0.9097 - val_loss: 0.3672
- val_f1_score: 0.8412 - val_accuracy: 0.8414 - val_auc: 0.9247
Epoch 12/500
50/50 [==============================] - ETA: 0s - loss: 0.3701 - f1_score: 0.8380 - accuracy: 0.8381 - auc: 0.9203
Epoch 00012: val_accuracy improved from 0.84141 to 0.84797, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.3701 - f1_score: 0.8380 - accuracy: 0.8381 - auc: 0.9203 - val_loss: 0.3538
- val_f1_score: 0.8475 - val_accuracy: 0.8480 - val_auc: 0.9261
Epoch 13/500
50/50 [==============================] - ETA: 0s - loss: 0.3515 - f1_score: 0.8475 - accuracy: 0.8475 - auc: 0.9281
Epoch 00013: val_accuracy improved from 0.84797 to 0.85031, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.3515 - f1_score: 0.8475 - accuracy: 0.8475 - auc: 0.9281 - val_loss: 0.3543
- val_f1_score: 0.8497 - val_accuracy: 0.8503 - val_auc: 0.9271
Epoch 14/500
50/50 [==============================] - ETA: 0s - loss: 0.3645 - f1_score: 0.8387 - accuracy: 0.8388 - auc: 0.9223
Epoch 00014: val_accuracy did not improve from 0.85031
50/50 [==============================] - 7s 139ms/step - loss: 0.3645 - f1_score: 0.8387 - accuracy: 0.8388 - auc: 0.9223 - val_loss: 0.3503
- val_f1_score: 0.8495 - val_accuracy: 0.8502 - val_auc: 0.9313
Epoch 15/500
50/50 [==============================] - ETA: 0s - loss: 0.3550 - f1_score: 0.8465 - accuracy: 0.8466 - auc: 0.9235
Epoch 00015: val_accuracy improved from 0.85031 to 0.85062, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.3550 - f1_score: 0.8465 - accuracy: 0.8466 - auc: 0.9235 - val_loss: 0.3481
- val_f1_score: 0.8498 - val_accuracy: 0.8506 - val_auc: 0.9325
Epoch 16/500
50/50 [==============================] - ETA: 0s - loss: 0.3405 - f1_score: 0.8506 - accuracy: 0.8506 - auc: 0.9351

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Epoch 00016: val_accuracy improved from 0.85062 to 0.85406, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.3405 - f1_score: 0.8506 - accuracy: 0.8506 - auc: 0.9351 - val_loss: 0.3412
- val_f1_score: 0.8535 - val_accuracy: 0.8541 - val_auc: 0.9328
Epoch 17/500
50/50 [==============================] - ETA: 0s - loss: 0.3459 - f1_score: 0.8519 - accuracy: 0.8519 - auc: 0.9324
Epoch 00017: val_accuracy improved from 0.85406 to 0.86141, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.3459 - f1_score: 0.8519 - accuracy: 0.8519 - auc: 0.9324 - val_loss: 0.3196
- val_f1_score: 0.8614 - val_accuracy: 0.8614 - val_auc: 0.9381
Epoch 18/500
50/50 [==============================] - ETA: 0s - loss: 0.3498 - f1_score: 0.8427 - accuracy: 0.8428 - auc: 0.9282
Epoch 00018: val_accuracy did not improve from 0.86141
50/50 [==============================] - 7s 139ms/step - loss: 0.3498 - f1_score: 0.8427 - accuracy: 0.8428 - auc: 0.9282 - val_loss: 0.3823
- val_f1_score: 0.8242 - val_accuracy: 0.8272 - val_auc: 0.9374
Epoch 19/500
50/50 [==============================] - ETA: 0s - loss: 0.3232 - f1_score: 0.8662 - accuracy: 0.8662 - auc: 0.9400
Epoch 00019: val_accuracy did not improve from 0.86141
50/50 [==============================] - 7s 138ms/step - loss: 0.3232 - f1_score: 0.8662 - accuracy: 0.8662 - auc: 0.9400 - val_loss: 0.3319
- val_f1_score: 0.8583 - val_accuracy: 0.8592 - val_auc: 0.9438
Epoch 20/500
50/50 [==============================] - ETA: 0s - loss: 0.3121 - f1_score: 0.8679 - accuracy: 0.8681 - auc: 0.9421
Epoch 00020: val_accuracy did not improve from 0.86141
50/50 [==============================] - 7s 138ms/step - loss: 0.3121 - f1_score: 0.8679 - accuracy: 0.8681 - auc: 0.9421 - val_loss: 0.3521
- val_f1_score: 0.8531 - val_accuracy: 0.8544 - val_auc: 0.9436
Epoch 21/500
50/50 [==============================] - ETA: 0s - loss: 0.3206 - f1_score: 0.8649 - accuracy: 0.8653 - auc: 0.9426
Epoch 00021: val_accuracy did not improve from 0.86141
50/50 [==============================] - 7s 138ms/step - loss: 0.3206 - f1_score: 0.8649 - accuracy: 0.8653 - auc: 0.9426 - val_loss: 0.3294
- val_f1_score: 0.8589 - val_accuracy: 0.8595 - val_auc: 0.9413
Epoch 22/500
50/50 [==============================] - ETA: 0s - loss: 0.3227 - f1_score: 0.8591 - accuracy: 0.8591 - auc: 0.9389
Epoch 00022: val_accuracy improved from 0.86141 to 0.86656, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.3227 - f1_score: 0.8591 - accuracy: 0.8591 - auc: 0.9389 - val_loss: 0.3212
- val_f1_score: 0.8658 - val_accuracy: 0.8666 - val_auc: 0.9459
Epoch 23/500
50/50 [==============================] - ETA: 0s - loss: 0.3265 - f1_score: 0.8606 - accuracy: 0.8606 - auc: 0.9414
Epoch 00023: val_accuracy did not improve from 0.86656
50/50 [==============================] - 7s 139ms/step - loss: 0.3265 - f1_score: 0.8606 - accuracy: 0.8606 - auc: 0.9414 - val_loss: 0.4242
- val_f1_score: 0.8091 - val_accuracy: 0.8144 - val_auc: 0.9490
Epoch 24/500
50/50 [==============================] - ETA: 0s - loss: 0.3096 - f1_score: 0.8712 - accuracy: 0.8712 - auc: 0.9455
Epoch 00024: val_accuracy improved from 0.86656 to 0.87187, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.3096 - f1_score: 0.8712 - accuracy: 0.8712 - auc: 0.9455 - val_loss: 0.3025
- val_f1_score: 0.8716 - val_accuracy: 0.8719 - val_auc: 0.9471
Epoch 25/500
50/50 [==============================] - ETA: 0s - loss: 0.2918 - f1_score: 0.8831 - accuracy: 0.8831 - auc: 0.9522
Epoch 00025: val_accuracy improved from 0.87187 to 0.87813, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.2918 - f1_score: 0.8831 - accuracy: 0.8831 - auc: 0.9522 - val_loss: 0.2859
- val_f1_score: 0.8781 - val_accuracy: 0.8781 - val_auc: 0.9523
Epoch 26/500
50/50 [==============================] - ETA: 0s - loss: 0.2891 - f1_score: 0.8781 - accuracy: 0.8781 - auc: 0.9503
Epoch 00026: val_accuracy improved from 0.87813 to 0.88703, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 10s 205ms/step - loss: 0.2891 - f1_score: 0.8781 - accuracy: 0.8781 - auc: 0.9503 - val_loss: 0.269
8 - val_f1_score: 0.8870 - val_accuracy: 0.8870 - val_auc: 0.9555
Epoch 27/500
50/50 [==============================] - ETA: 0s - loss: 0.2885 - f1_score: 0.8766 - accuracy: 0.8766 - auc: 0.9517
Epoch 00027: val_accuracy did not improve from 0.88703
50/50 [==============================] - 7s 138ms/step - loss: 0.2885 - f1_score: 0.8766 - accuracy: 0.8766 - auc: 0.9517 - val_loss: 0.2748
- val_f1_score: 0.8867 - val_accuracy: 0.8867 - val_auc: 0.9537
Epoch 28/500
50/50 [==============================] - ETA: 0s - loss: 0.2745 - f1_score: 0.8850 - accuracy: 0.8850 - auc: 0.9579
Epoch 00028: val_accuracy did not improve from 0.88703
50/50 [==============================] - 7s 138ms/step - loss: 0.2745 - f1_score: 0.8850 - accuracy: 0.8850 - auc: 0.9579 - val_loss: 0.3291
- val_f1_score: 0.8639 - val_accuracy: 0.8648 - val_auc: 0.9485
Epoch 29/500
50/50 [==============================] - ETA: 0s - loss: 0.2833 - f1_score: 0.8806 - accuracy: 0.8806 - auc: 0.9514
Epoch 00029: val_accuracy did not improve from 0.88703
50/50 [==============================] - 7s 141ms/step - loss: 0.2833 - f1_score: 0.8806 - accuracy: 0.8806 - auc: 0.9514 - val_loss: 0.2764
- val_f1_score: 0.8864 - val_accuracy: 0.8864 - val_auc: 0.9540
Epoch 30/500
50/50 [==============================] - ETA: 0s - loss: 0.2819 - f1_score: 0.8787 - accuracy: 0.8788 - auc: 0.9541
Epoch 00030: val_accuracy did not improve from 0.88703
50/50 [==============================] - 7s 138ms/step - loss: 0.2819 - f1_score: 0.8787 - accuracy: 0.8788 - auc: 0.9541 - val_loss: 0.2819
- val_f1_score: 0.8850 - val_accuracy: 0.8852 - val_auc: 0.9541
Epoch 31/500
50/50 [==============================] - ETA: 0s - loss: 0.2749 - f1_score: 0.8879 - accuracy: 0.8881 - auc: 0.9578
Epoch 00031: val_accuracy did not improve from 0.88703
50/50 [==============================] - 7s 138ms/step - loss: 0.2749 - f1_score: 0.8879 - accuracy: 0.8881 - auc: 0.9578 - val_loss: 0.4161
- val_f1_score: 0.8167 - val_accuracy: 0.8214 - val_auc: 0.9572
Epoch 32/500
50/50 [==============================] - ETA: 0s - loss: 0.2970 - f1_score: 0.8744 - accuracy: 0.8744 - auc: 0.9491
Epoch 00032: val_accuracy improved from 0.88703 to 0.89047, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 147ms/step - loss: 0.2970 - f1_score: 0.8744 - accuracy: 0.8744 - auc: 0.9491 - val_loss: 0.2687
- val_f1_score: 0.8901 - val_accuracy: 0.8905 - val_auc: 0.9611
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- val_f1_score: 0.8961 - val_accuracy: 0.8909 - val_auc: 0.9611
Epoch 33/500
50/50 [==============================] - ETA: 0s - loss: 0.2571 - f1_score: 0.8934 - accuracy: 0.8934 - auc: 0.9606
Epoch 00033: val_accuracy did not improve from 0.89047
50/50 [==============================] - 7s 138ms/step - loss: 0.2571 - f1_score: 0.8934 - accuracy: 0.8934 - auc: 0.9606 - val_loss: 0.2804
- val_f1_score: 0.8817 - val_accuracy: 0.8819 - val_auc: 0.9587
Epoch 34/500
50/50 [==============================] - ETA: 0s - loss: 0.2701 - f1_score: 0.8890 - accuracy: 0.8891 - auc: 0.9579
Epoch 00034: val_accuracy did not improve from 0.89047
50/50 [==============================] - 7s 141ms/step - loss: 0.2701 - f1_score: 0.8890 - accuracy: 0.8891 - auc: 0.9579 - val_loss: 0.2847
- val_f1_score: 0.8790 - val_accuracy: 0.8794 - val_auc: 0.9569
Epoch 35/500
50/50 [==============================] - ETA: 0s - loss: 0.2597 - f1_score: 0.8959 - accuracy: 0.8959 - auc: 0.9615
Epoch 00035: val_accuracy improved from 0.89047 to 0.89438, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 148ms/step - loss: 0.2597 - f1_score: 0.8959 - accuracy: 0.8959 - auc: 0.9615 - val_loss: 0.2480
- val_f1_score: 0.8943 - val_accuracy: 0.8944 - val_auc: 0.9645
Epoch 36/500
50/50 [==============================] - ETA: 0s - loss: 0.2489 - f1_score: 0.8978 - accuracy: 0.8978 - auc: 0.9646
Epoch 00036: val_accuracy improved from 0.89438 to 0.89969, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 141ms/step - loss: 0.2489 - f1_score: 0.8978 - accuracy: 0.8978 - auc: 0.9646 - val_loss: 0.2432
- val_f1_score: 0.8997 - val_accuracy: 0.8997 - val_auc: 0.9653
Epoch 37/500
50/50 [==============================] - ETA: 0s - loss: 0.2397 - f1_score: 0.9006 - accuracy: 0.9006 - auc: 0.9676
Epoch 00037: val_accuracy improved from 0.89969 to 0.90250, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.2397 - f1_score: 0.9006 - accuracy: 0.9006 - auc: 0.9676 - val_loss: 0.2405
- val_f1_score: 0.9025 - val_accuracy: 0.9025 - val_auc: 0.9651
Epoch 38/500
50/50 [==============================] - ETA: 0s - loss: 0.2371 - f1_score: 0.9012 - accuracy: 0.9013 - auc: 0.9667
Epoch 00038: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2371 - f1_score: 0.9012 - accuracy: 0.9013 - auc: 0.9667 - val_loss: 0.2471
- val_f1_score: 0.8998 - val_accuracy: 0.8998 - val_auc: 0.9645
Epoch 39/500
50/50 [==============================] - ETA: 0s - loss: 0.2483 - f1_score: 0.8987 - accuracy: 0.8988 - auc: 0.9638
Epoch 00039: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2483 - f1_score: 0.8987 - accuracy: 0.8988 - auc: 0.9638 - val_loss: 0.3069
- val_f1_score: 0.8747 - val_accuracy: 0.8756 - val_auc: 0.9608
Epoch 40/500
50/50 [==============================] - ETA: 0s - loss: 0.2495 - f1_score: 0.8960 - accuracy: 0.8963 - auc: 0.9645
Epoch 00040: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2495 - f1_score: 0.8960 - accuracy: 0.8963 - auc: 0.9645 - val_loss: 0.2839
- val_f1_score: 0.8864 - val_accuracy: 0.8869 - val_auc: 0.9608
Epoch 41/500
50/50 [==============================] - ETA: 0s - loss: 0.2429 - f1_score: 0.9028 - accuracy: 0.9028 - auc: 0.9653
Epoch 00041: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2429 - f1_score: 0.9028 - accuracy: 0.9028 - auc: 0.9653 - val_loss: 0.2554
- val_f1_score: 0.8914 - val_accuracy: 0.8914 - val_auc: 0.9600
Epoch 42/500
50/50 [==============================] - ETA: 0s - loss: 0.2311 - f1_score: 0.9069 - accuracy: 0.9069 - auc: 0.9686
Epoch 00042: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2311 - f1_score: 0.9069 - accuracy: 0.9069 - auc: 0.9686 - val_loss: 0.2514
- val_f1_score: 0.8976 - val_accuracy: 0.8977 - val_auc: 0.9643
Epoch 43/500
50/50 [==============================] - ETA: 0s - loss: 0.2389 - f1_score: 0.9005 - accuracy: 0.9006 - auc: 0.9672
Epoch 00043: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2389 - f1_score: 0.9005 - accuracy: 0.9006 - auc: 0.9672 - val_loss: 0.2616
- val_f1_score: 0.8951 - val_accuracy: 0.8952 - val_auc: 0.9598
Epoch 44/500
50/50 [==============================] - ETA: 0s - loss: 0.2337 - f1_score: 0.9025 - accuracy: 0.9025 - auc: 0.9688
Epoch 00044: val_accuracy did not improve from 0.90250
50/50 [==============================] - 7s 138ms/step - loss: 0.2337 - f1_score: 0.9025 - accuracy: 0.9025 - auc: 0.9688 - val_loss: 0.2471
- val_f1_score: 0.8991 - val_accuracy: 0.8991 - val_auc: 0.9631
Epoch 45/500
50/50 [==============================] - ETA: 0s - loss: 0.2463 - f1_score: 0.8959 - accuracy: 0.8959 - auc: 0.9655
Epoch 00045: val_accuracy improved from 0.90250 to 0.91000, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 147ms/step - loss: 0.2463 - f1_score: 0.8959 - accuracy: 0.8959 - auc: 0.9655 - val_loss: 0.2234
- val_f1_score: 0.9100 - val_accuracy: 0.9100 - val_auc: 0.9702
Epoch 46/500
50/50 [==============================] - ETA: 0s - loss: 0.2366 - f1_score: 0.9049 - accuracy: 0.9050 - auc: 0.9706
Epoch 00046: val_accuracy did not improve from 0.91000
50/50 [==============================] - 7s 138ms/step - loss: 0.2366 - f1_score: 0.9049 - accuracy: 0.9050 - auc: 0.9706 - val_loss: 0.2781
- val_f1_score: 0.8862 - val_accuracy: 0.8869 - val_auc: 0.9675
Epoch 47/500
50/50 [==============================] - ETA: 0s - loss: 0.2059 - f1_score: 0.9172 - accuracy: 0.9172 - auc: 0.9766
Epoch 00047: val_accuracy did not improve from 0.91000
50/50 [==============================] - 7s 139ms/step - loss: 0.2059 - f1_score: 0.9172 - accuracy: 0.9172 - auc: 0.9766 - val_loss: 0.2359
- val_f1_score: 0.9027 - val_accuracy: 0.9028 - val_auc: 0.9693
Epoch 48/500
50/50 [==============================] - ETA: 0s - loss: 0.2252 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9709
Epoch 00048: val_accuracy improved from 0.91000 to 0.91031, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.2252 - f1_score: 0.9075 - accuracy: 0.9075 - auc: 0.9709 - val_loss: 0.2193
- val_f1_score: 0.9103 - val_accuracy: 0.9103 - val_auc: 0.9708
Epoch 49/500
50/50 [==============================] - ETA: 0s - loss: 0.2066 - f1_score: 0.9122 - accuracy: 0.9122 - auc: 0.9769
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Epoch 00049: val_accuracy improved from 0.91031 to 0.91078, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.2066 - f1_score: 0.9122 - accuracy: 0.9122 - auc: 0.9769 - val_loss: 0.2215
- val_f1_score: 0.9107 - val_accuracy: 0.9108 - val_auc: 0.9708
Epoch 50/500
50/50 [==============================] - ETA: 0s - loss: 0.2257 - f1_score: 0.9100 - accuracy: 0.9100 - auc: 0.9706
Epoch 00050: val_accuracy improved from 0.91078 to 0.91531, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 141ms/step - loss: 0.2257 - f1_score: 0.9100 - accuracy: 0.9100 - auc: 0.9706 - val_loss: 0.2194
- val_f1_score: 0.9153 - val_accuracy: 0.9153 - val_auc: 0.9715
Epoch 51/500
50/50 [==============================] - ETA: 0s - loss: 0.2178 - f1_score: 0.9131 - accuracy: 0.9131 - auc: 0.9734
Epoch 00051: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 137ms/step - loss: 0.2178 - f1_score: 0.9131 - accuracy: 0.9131 - auc: 0.9734 - val_loss: 0.2315
- val_f1_score: 0.9090 - val_accuracy: 0.9091 - val_auc: 0.9692
Epoch 52/500
50/50 [==============================] - ETA: 0s - loss: 0.2084 - f1_score: 0.9131 - accuracy: 0.9131 - auc: 0.9750
Epoch 00052: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 138ms/step - loss: 0.2084 - f1_score: 0.9131 - accuracy: 0.9131 - auc: 0.9750 - val_loss: 0.2238
- val_f1_score: 0.9083 - val_accuracy: 0.9083 - val_auc: 0.9704
Epoch 53/500
50/50 [==============================] - ETA: 0s - loss: 0.2146 - f1_score: 0.9109 - accuracy: 0.9109 - auc: 0.9727
Epoch 00053: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 137ms/step - loss: 0.2146 - f1_score: 0.9109 - accuracy: 0.9109 - auc: 0.9727 - val_loss: 0.2350
- val_f1_score: 0.9072 - val_accuracy: 0.9072 - val_auc: 0.9691
Epoch 54/500
50/50 [==============================] - ETA: 0s - loss: 0.2118 - f1_score: 0.9100 - accuracy: 0.9100 - auc: 0.9746
Epoch 00054: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 137ms/step - loss: 0.2118 - f1_score: 0.9100 - accuracy: 0.9100 - auc: 0.9746 - val_loss: 0.2492
- val_f1_score: 0.9003 - val_accuracy: 0.9005 - val_auc: 0.9667
Epoch 55/500
50/50 [==============================] - ETA: 0s - loss: 0.2171 - f1_score: 0.9150 - accuracy: 0.9150 - auc: 0.9725
Epoch 00055: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 137ms/step - loss: 0.2171 - f1_score: 0.9150 - accuracy: 0.9150 - auc: 0.9725 - val_loss: 0.4274
- val_f1_score: 0.8202 - val_accuracy: 0.8247 - val_auc: 0.9701
Epoch 56/500
50/50 [==============================] - ETA: 0s - loss: 0.2061 - f1_score: 0.9144 - accuracy: 0.9144 - auc: 0.9759
Epoch 00056: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 136ms/step - loss: 0.2061 - f1_score: 0.9144 - accuracy: 0.9144 - auc: 0.9759 - val_loss: 0.2197
- val_f1_score: 0.9133 - val_accuracy: 0.9133 - val_auc: 0.9720
Epoch 57/500
50/50 [==============================] - ETA: 0s - loss: 0.1936 - f1_score: 0.9215 - accuracy: 0.9216 - auc: 0.9781
Epoch 00057: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 137ms/step - loss: 0.1936 - f1_score: 0.9215 - accuracy: 0.9216 - auc: 0.9781 - val_loss: 0.2261
- val_f1_score: 0.9117 - val_accuracy: 0.9117 - val_auc: 0.9708
Epoch 58/500
50/50 [==============================] - ETA: 0s - loss: 0.1984 - f1_score: 0.9215 - accuracy: 0.9216 - auc: 0.9765
Epoch 00058: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 138ms/step - loss: 0.1984 - f1_score: 0.9215 - accuracy: 0.9216 - auc: 0.9765 - val_loss: 0.2457
- val_f1_score: 0.8970 - val_accuracy: 0.8973 - val_auc: 0.9707
Epoch 59/500
50/50 [==============================] - ETA: 0s - loss: 0.1976 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9769
Epoch 00059: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 138ms/step - loss: 0.1976 - f1_score: 0.9250 - accuracy: 0.9250 - auc: 0.9769 - val_loss: 0.2482
- val_f1_score: 0.9076 - val_accuracy: 0.9078 - val_auc: 0.9704
Epoch 60/500
50/50 [==============================] - ETA: 0s - loss: 0.1870 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9793
Epoch 00060: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 139ms/step - loss: 0.1870 - f1_score: 0.9234 - accuracy: 0.9234 - auc: 0.9793 - val_loss: 0.2156
- val_f1_score: 0.9116 - val_accuracy: 0.9117 - val_auc: 0.9741
Epoch 61/500
50/50 [==============================] - ETA: 0s - loss: 0.2053 - f1_score: 0.9159 - accuracy: 0.9159 - auc: 0.9754
Epoch 00061: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 138ms/step - loss: 0.2053 - f1_score: 0.9159 - accuracy: 0.9159 - auc: 0.9754 - val_loss: 0.2155
- val_f1_score: 0.9131 - val_accuracy: 0.9131 - val_auc: 0.9723
Epoch 62/500
50/50 [==============================] - ETA: 0s - loss: 0.2126 - f1_score: 0.9122 - accuracy: 0.9122 - auc: 0.9743
Epoch 00062: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 138ms/step - loss: 0.2126 - f1_score: 0.9122 - accuracy: 0.9122 - auc: 0.9743 - val_loss: 0.2573
- val_f1_score: 0.8948 - val_accuracy: 0.8950 - val_auc: 0.9649
Epoch 63/500
50/50 [==============================] - ETA: 0s - loss: 0.2194 - f1_score: 0.9134 - accuracy: 0.9134 - auc: 0.9749
Epoch 00063: val_accuracy did not improve from 0.91531
50/50 [==============================] - 7s 138ms/step - loss: 0.2194 - f1_score: 0.9134 - accuracy: 0.9134 - auc: 0.9749 - val_loss: 0.2193
- val_f1_score: 0.9141 - val_accuracy: 0.9141 - val_auc: 0.9716
Epoch 64/500
50/50 [==============================] - ETA: 0s - loss: 0.1900 - f1_score: 0.9237 - accuracy: 0.9237 - auc: 0.9780
Epoch 00064: val_accuracy improved from 0.91531 to 0.91578, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.1900 - f1_score: 0.9237 - accuracy: 0.9237 - auc: 0.9780 - val_loss: 0.2183
- val_f1_score: 0.9157 - val_accuracy: 0.9158 - val_auc: 0.9736
Epoch 65/500
50/50 [==============================] - ETA: 0s - loss: 0.1920 - f1_score: 0.9200 - accuracy: 0.9200 - auc: 0.9796
Epoch 00065: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 139ms/step - loss: 0.1920 - f1_score: 0.9200 - accuracy: 0.9200 - auc: 0.9796 - val_loss: 0.2157
- val_f1_score: 0.9154 - val_accuracy: 0.9155 - val_auc: 0.9731
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val_f1_score: 0.9154 - val_accuracy: 0.9153 - val_auc: 0.9781

Epoch 66/500
50/50 [==============================] - ETA: 0s - loss: 0.1753 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9819
Epoch 00066: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 138ms/step - loss: 0.1753 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9819 - val_loss: 0.4115
- val_f1_score: 0.8544 - val_accuracy: 0.8566 - val_auc: 0.9650
Epoch 67/500
50/50 [==============================] - ETA: 0s - loss: 0.2275 - f1_score: 0.9065 - accuracy: 0.9066 - auc: 0.9718
Epoch 00067: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 138ms/step - loss: 0.2275 - f1_score: 0.9065 - accuracy: 0.9066 - auc: 0.9718 - val_loss: 0.2379
- val_f1_score: 0.9016 - val_accuracy: 0.9017 - val_auc: 0.9700
Epoch 68/500
50/50 [==============================] - ETA: 0s - loss: 0.1799 - f1_score: 0.9322 - accuracy: 0.9322 - auc: 0.9811
Epoch 00068: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 138ms/step - loss: 0.1799 - f1_score: 0.9322 - accuracy: 0.9322 - auc: 0.9811 - val_loss: 0.2249
- val_f1_score: 0.9102 - val_accuracy: 0.9103 - val_auc: 0.9732
Epoch 69/500
50/50 [==============================] - ETA: 0s - loss: 0.1865 - f1_score: 0.9212 - accuracy: 0.9212 - auc: 0.9806
Epoch 00069: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 138ms/step - loss: 0.1865 - f1_score: 0.9212 - accuracy: 0.9212 - auc: 0.9806 - val_loss: 0.2384
- val_f1_score: 0.9100 - val_accuracy: 0.9102 - val_auc: 0.9724
Epoch 70/500
50/50 [==============================] - ETA: 0s - loss: 0.2044 - f1_score: 0.9184 - accuracy: 0.9184 - auc: 0.9766
Epoch 00070: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 138ms/step - loss: 0.2044 - f1_score: 0.9184 - accuracy: 0.9184 - auc: 0.9766 - val_loss: 0.2172
- val_f1_score: 0.9149 - val_accuracy: 0.9150 - val_auc: 0.9740
Epoch 71/500
50/50 [==============================] - ETA: 0s - loss: 0.1997 - f1_score: 0.9134 - accuracy: 0.9134 - auc: 0.9775
Epoch 00071: val_accuracy did not improve from 0.91578
50/50 [==============================] - 7s 138ms/step - loss: 0.1997 - f1_score: 0.9134 - accuracy: 0.9134 - auc: 0.9775 - val_loss: 0.2246
- val_f1_score: 0.9130 - val_accuracy: 0.9131 - val_auc: 0.9739
Epoch 72/500
50/50 [==============================] - ETA: 0s - loss: 0.1899 - f1_score: 0.9241 - accuracy: 0.9241 - auc: 0.9801
Epoch 00072: val_accuracy improved from 0.91578 to 0.91984, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 149ms/step - loss: 0.1899 - f1_score: 0.9241 - accuracy: 0.9241 - auc: 0.9801 - val_loss: 0.2132
- val_f1_score: 0.9198 - val_accuracy: 0.9198 - val_auc: 0.9756
Epoch 73/500
50/50 [==============================] - ETA: 0s - loss: 0.1457 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9872
Epoch 00073: val_accuracy did not improve from 0.91984
50/50 [==============================] - 7s 138ms/step - loss: 0.1457 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9872 - val_loss: 0.2138
- val_f1_score: 0.9198 - val_accuracy: 0.9198 - val_auc: 0.9751
Epoch 74/500
50/50 [==============================] - ETA: 0s - loss: 0.1716 - f1_score: 0.9322 - accuracy: 0.9322 - auc: 0.9821
Epoch 00074: val_accuracy did not improve from 0.91984
50/50 [==============================] - 7s 138ms/step - loss: 0.1716 - f1_score: 0.9322 - accuracy: 0.9322 - auc: 0.9821 - val_loss: 0.3045
- val_f1_score: 0.8802 - val_accuracy: 0.8813 - val_auc: 0.9742
Epoch 75/500
50/50 [==============================] - ETA: 0s - loss: 0.2067 - f1_score: 0.9146 - accuracy: 0.9147 - auc: 0.9760
Epoch 00075: val_accuracy did not improve from 0.91984
50/50 [==============================] - 7s 138ms/step - loss: 0.2067 - f1_score: 0.9146 - accuracy: 0.9147 - auc: 0.9760 - val_loss: 0.2475
- val_f1_score: 0.8988 - val_accuracy: 0.8992 - val_auc: 0.9749
Epoch 76/500
50/50 [==============================] - ETA: 0s - loss: 0.1777 - f1_score: 0.9259 - accuracy: 0.9259 - auc: 0.9815
Epoch 00076: val_accuracy did not improve from 0.91984
50/50 [==============================] - 7s 138ms/step - loss: 0.1777 - f1_score: 0.9259 - accuracy: 0.9259 - auc: 0.9815 - val_loss: 0.2046
- val_f1_score: 0.9173 - val_accuracy: 0.9173 - val_auc: 0.9749
Epoch 77/500
50/50 [==============================] - ETA: 0s - loss: 0.1801 - f1_score: 0.9265 - accuracy: 0.9266 - auc: 0.9814
Epoch 00077: val_accuracy did not improve from 0.91984
50/50 [==============================] - 7s 138ms/step - loss: 0.1801 - f1_score: 0.9265 - accuracy: 0.9266 - auc: 0.9814 - val_loss: 0.2151
- val_f1_score: 0.9197 - val_accuracy: 0.9197 - val_auc: 0.9734
Epoch 78/500
50/50 [==============================] - ETA: 0s - loss: 0.1735 - f1_score: 0.9309 - accuracy: 0.9309 - auc: 0.9833
Epoch 00078: val_accuracy improved from 0.91984 to 0.92172, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 148ms/step - loss: 0.1735 - f1_score: 0.9309 - accuracy: 0.9309 - auc: 0.9833 - val_loss: 0.2048
- val_f1_score: 0.9217 - val_accuracy: 0.9217 - val_auc: 0.9781
Epoch 79/500
50/50 [==============================] - ETA: 0s - loss: 0.1808 - f1_score: 0.9275 - accuracy: 0.9275 - auc: 0.9801
Epoch 00079: val_accuracy did not improve from 0.92172
50/50 [==============================] - 7s 140ms/step - loss: 0.1808 - f1_score: 0.9275 - accuracy: 0.9275 - auc: 0.9801 - val_loss: 0.2435
- val_f1_score: 0.9063 - val_accuracy: 0.9066 - val_auc: 0.9740
Epoch 80/500
50/50 [==============================] - ETA: 0s - loss: 0.1645 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9848
Epoch 00080: val_accuracy did not improve from 0.92172
50/50 [==============================] - 7s 138ms/step - loss: 0.1645 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9848 - val_loss: 0.2230
- val_f1_score: 0.9152 - val_accuracy: 0.9153 - val_auc: 0.9774
Epoch 81/500
50/50 [==============================] - ETA: 0s - loss: 0.1622 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9844
Epoch 00081: val_accuracy did not improve from 0.92172
50/50 [==============================] - 7s 138ms/step - loss: 0.1622 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9844 - val_loss: 0.2147
- val_f1_score: 0.9164 - val_accuracy: 0.9166 - val_auc: 0.9783
Epoch 82/500
50/50 [==============================] - ETA: 0s - loss: 0.1571 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9863

Epoch 00082: val_accuracy did not improve from 0.92172
50/50 [==============================] - 7s 138ms/step - loss: 0.1571 - f1_score: 0.9434 - accuracy: 0.9434 - auc: 0.9863 - val_loss: 0.2310 - val_f1_score: 0.9122 - val_accuracy: 0.9125 - val_auc: 0.9791
Epoch 83/500
50/50 [==============================] - ETA: 0s - loss: 0.1592 - f1_score: 0.9347 - accuracy: 0.9347 - auc: 0.9858
Epoch 00083: val_accuracy improved from 0.92172 to 0.92281, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.1592 - f1_score: 0.9347 - accuracy: 0.9347 - auc: 0.9858 - val_loss: 0.2068 - val_f1_score: 0.9228 - val_accuracy: 0.9228 - val_auc: 0.9778
Epoch 84/500
50/50 [==============================] - ETA: 0s - loss: 0.1637 - f1_score: 0.9356 - accuracy: 0.9356 - auc: 0.9847
Epoch 00084: val_accuracy improved from 0.92281 to 0.92625, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.1637 - f1_score: 0.9356 - accuracy: 0.9356 - auc: 0.9847 - val_loss: 0.1960 - val_f1_score: 0.9262 - val_accuracy: 0.9262 - val_auc: 0.9773
Epoch 85/500
50/50 [==============================] - ETA: 0s - loss: 0.1574 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9862
Epoch 00085: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 139ms/step - loss: 0.1574 - f1_score: 0.9384 - accuracy: 0.9384 - auc: 0.9862 - val_loss: 0.2138 - val_f1_score: 0.9145 - val_accuracy: 0.9145 - val_auc: 0.9766
Epoch 86/500
50/50 [==============================] - ETA: 0s - loss: 0.1869 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9830
Epoch 00086: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1869 - f1_score: 0.9228 - accuracy: 0.9228 - auc: 0.9830 - val_loss: 0.2461 - val_f1_score: 0.9033 - val_accuracy: 0.9036 - val_auc: 0.9743
Epoch 87/500
50/50 [==============================] - ETA: 0s - loss: 0.1669 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9839
Epoch 00087: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1669 - f1_score: 0.9334 - accuracy: 0.9334 - auc: 0.9839 - val_loss: 0.2222 - val_f1_score: 0.9153 - val_accuracy: 0.9155 - val_auc: 0.9760
Epoch 88/500
50/50 [==============================] - ETA: 0s - loss: 0.1760 - f1_score: 0.9303 - accuracy: 0.9303 - auc: 0.9823
Epoch 00088: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 139ms/step - loss: 0.1760 - f1_score: 0.9303 - accuracy: 0.9303 - auc: 0.9823 - val_loss: 0.2281 - val_f1_score: 0.9098 - val_accuracy: 0.9102 - val_auc: 0.9791
Epoch 89/500
50/50 [==============================] - ETA: 0s - loss: 0.1463 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9879
Epoch 00089: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1463 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9879 - val_loss: 0.2095 - val_f1_score: 0.9224 - val_accuracy: 0.9225 - val_auc: 0.9782
Epoch 90/500
50/50 [==============================] - ETA: 0s - loss: 0.1596 - f1_score: 0.9369 - accuracy: 0.9369 - auc: 0.9857
Epoch 00090: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1596 - f1_score: 0.9369 - accuracy: 0.9369 - auc: 0.9857 - val_loss: 0.2001 - val_f1_score: 0.9231 - val_accuracy: 0.9231 - val_auc: 0.9793
Epoch 91/500
50/50 [==============================] - ETA: 0s - loss: 0.1491 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9869
Epoch 00091: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 139ms/step - loss: 0.1491 - f1_score: 0.9397 - accuracy: 0.9397 - auc: 0.9869 - val_loss: 0.2408 - val_f1_score: 0.9071 - val_accuracy: 0.9072 - val_auc: 0.9712
Epoch 92/500
50/50 [==============================] - ETA: 0s - loss: 0.1483 - f1_score: 0.9400 - accuracy: 0.9400 - auc: 0.9880
Epoch 00092: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1483 - f1_score: 0.9400 - accuracy: 0.9400 - auc: 0.9880 - val_loss: 0.2238 - val_f1_score: 0.9197 - val_accuracy: 0.9198 - val_auc: 0.9785
Epoch 93/500
50/50 [==============================] - ETA: 0s - loss: 0.1371 - f1_score: 0.9481 - accuracy: 0.9481 - auc: 0.9897
Epoch 00093: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1371 - f1_score: 0.9481 - accuracy: 0.9481 - auc: 0.9897 - val_loss: 0.2041 - val_f1_score: 0.9204 - val_accuracy: 0.9205 - val_auc: 0.9773
Epoch 94/500
50/50 [==============================] - ETA: 0s - loss: 0.1735 - f1_score: 0.9319 - accuracy: 0.9319 - auc: 0.9862
Epoch 00094: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 139ms/step - loss: 0.1735 - f1_score: 0.9319 - accuracy: 0.9319 - auc: 0.9862 - val_loss: 0.2302 - val_f1_score: 0.9109 - val_accuracy: 0.9111 - val_auc: 0.9753
Epoch 95/500
50/50 [==============================] - ETA: 0s - loss: 0.1671 - f1_score: 0.9294 - accuracy: 0.9294 - auc: 0.9858
Epoch 00095: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 139ms/step - loss: 0.1671 - f1_score: 0.9294 - accuracy: 0.9294 - auc: 0.9858 - val_loss: 0.2125 - val_f1_score: 0.9177 - val_accuracy: 0.9178 - val_auc: 0.9759
Epoch 96/500
50/50 [==============================] - ETA: 0s - loss: 0.1530 - f1_score: 0.9394 - accuracy: 0.9394 - auc: 0.9879
Epoch 00096: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 139ms/step - loss: 0.1530 - f1_score: 0.9394 - accuracy: 0.9394 - auc: 0.9879 - val_loss: 0.2522 - val_f1_score: 0.9007 - val_accuracy: 0.9013 - val_auc: 0.9799
Epoch 97/500
50/50 [==============================] - ETA: 0s - loss: 0.1215 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9908
Epoch 00097: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1215 - f1_score: 0.9534 - accuracy: 0.9534 - auc: 0.9908 - val_loss: 0.2080 - val_f1_score: 0.9223 - val_accuracy: 0.9223 - val_auc: 0.9801
Epoch 98/500
50/50 [==============================] - ETA: 0s - loss: 0.1507 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9864
Epoch 00098: val_accuracy did not improve from 0.92625
50/50 [==============================] - 7s 138ms/step - loss: 0.1507 - f1_score: 0.9425 - accuracy: 0.9425 - auc: 0.9864 - val_loss: 0.1890 - val_f1_score: 0.9261 - val_accuracy: 0.9261 - val_auc: 0.9799

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  val_f1_score: 0.9251 - val_accuracy: 0.9251 - val_auc: 0.9788
Epoch 99/500
50/50 [==============================] - ETA: 0s - loss: 0.1430 - f1_score: 0.9441 - accuracy: 0.9441 - auc: 0.9887
Epoch 00099: val_accuracy improved from 0.92625 to 0.92719, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 147ms/step - loss: 0.1430 - f1_score: 0.9441 - accuracy: 0.9441 - auc: 0.9887 - val_loss: 0.1907
- val_f1_score: 0.9272 - val_accuracy: 0.9272 - val_auc: 0.9792
Epoch 100/500
50/50 [==============================] - ETA: 0s - loss: 0.1527 - f1_score: 0.9328 - accuracy: 0.9328 - auc: 0.9875
Epoch 00100: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1527 - f1_score: 0.9328 - accuracy: 0.9328 - auc: 0.9875 - val_loss: 0.2090
- val_f1_score: 0.9191 - val_accuracy: 0.9192 - val_auc: 0.9765
Epoch 101/500
50/50 [==============================] - ETA: 0s - loss: 0.1496 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9875
Epoch 00101: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 139ms/step - loss: 0.1496 - f1_score: 0.9412 - accuracy: 0.9413 - auc: 0.9875 - val_loss: 0.2109
- val_f1_score: 0.9204 - val_accuracy: 0.9205 - val_auc: 0.9778
Epoch 102/500
50/50 [==============================] - ETA: 0s - loss: 0.1381 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9886
Epoch 00102: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1381 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9886 - val_loss: 0.2268
- val_f1_score: 0.9191 - val_accuracy: 0.9192 - val_auc: 0.9782
Epoch 103/500
50/50 [==============================] - ETA: 0s - loss: 0.1476 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9879
Epoch 00103: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 139ms/step - loss: 0.1476 - f1_score: 0.9391 - accuracy: 0.9391 - auc: 0.9879 - val_loss: 0.2071
- val_f1_score: 0.9202 - val_accuracy: 0.9203 - val_auc: 0.9815
Epoch 104/500
50/50 [==============================] - ETA: 0s - loss: 0.1352 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9888
Epoch 00104: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1352 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9888 - val_loss: 0.2105
- val_f1_score: 0.9207 - val_accuracy: 0.9208 - val_auc: 0.9791
Epoch 105/500
50/50 [==============================] - ETA: 0s - loss: 0.1199 - f1_score: 0.9540 - accuracy: 0.9541 - auc: 0.9910
Epoch 00105: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1199 - f1_score: 0.9540 - accuracy: 0.9541 - auc: 0.9910 - val_loss: 0.1970
- val_f1_score: 0.9226 - val_accuracy: 0.9227 - val_auc: 0.9800
Epoch 106/500
50/50 [==============================] - ETA: 0s - loss: 0.1356 - f1_score: 0.9440 - accuracy: 0.9441 - auc: 0.9894
Epoch 00106: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1356 - f1_score: 0.9440 - accuracy: 0.9441 - auc: 0.9894 - val_loss: 0.2773
- val_f1_score: 0.8978 - val_accuracy: 0.8984 - val_auc: 0.9780
Epoch 107/500
50/50 [==============================] - ETA: 0s - loss: 0.1309 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9891
Epoch 00107: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1309 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9891 - val_loss: 0.2373
- val_f1_score: 0.9168 - val_accuracy: 0.9170 - val_auc: 0.9812
Epoch 108/500
50/50 [==============================] - ETA: 0s - loss: 0.1399 - f1_score: 0.9447 - accuracy: 0.9447 - auc: 0.9889
Epoch 00108: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1399 - f1_score: 0.9447 - accuracy: 0.9447 - auc: 0.9889 - val_loss: 0.2290
- val_f1_score: 0.9156 - val_accuracy: 0.9158 - val_auc: 0.9793
Epoch 109/500
50/50 [==============================] - ETA: 0s - loss: 0.1382 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9896
Epoch 00109: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1382 - f1_score: 0.9450 - accuracy: 0.9450 - auc: 0.9896 - val_loss: 0.2080
- val_f1_score: 0.9220 - val_accuracy: 0.9220 - val_auc: 0.9797
Epoch 110/500
50/50 [==============================] - ETA: 0s - loss: 0.1408 - f1_score: 0.9469 - accuracy: 0.9469 - auc: 0.9899
Epoch 00110: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 139ms/step - loss: 0.1408 - f1_score: 0.9469 - accuracy: 0.9469 - auc: 0.9899 - val_loss: 0.2400
- val_f1_score: 0.9097 - val_accuracy: 0.9100 - val_auc: 0.9799
Epoch 111/500
50/50 [==============================] - ETA: 0s - loss: 0.1377 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9884
Epoch 00111: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1377 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9884 - val_loss: 0.2197
- val_f1_score: 0.9214 - val_accuracy: 0.9214 - val_auc: 0.9779
Epoch 112/500
50/50 [==============================] - ETA: 0s - loss: 0.1521 - f1_score: 0.9359 - accuracy: 0.9359 - auc: 0.9873
Epoch 00112: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 139ms/step - loss: 0.1521 - f1_score: 0.9359 - accuracy: 0.9359 - auc: 0.9873 - val_loss: 0.1875
- val_f1_score: 0.9256 - val_accuracy: 0.9256 - val_auc: 0.9796
Epoch 113/500
50/50 [==============================] - ETA: 0s - loss: 0.1133 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9930
Epoch 00113: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1133 - f1_score: 0.9547 - accuracy: 0.9547 - auc: 0.9930 - val_loss: 0.2522
- val_f1_score: 0.9090 - val_accuracy: 0.9094 - val_auc: 0.9803
Epoch 114/500
50/50 [==============================] - ETA: 0s - loss: 0.1383 - f1_score: 0.9419 - accuracy: 0.9419 - auc: 0.9899
Epoch 00114: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1383 - f1_score: 0.9419 - accuracy: 0.9419 - auc: 0.9899 - val_loss: 0.1981
- val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9809
Epoch 115/500
50/50 [==============================] - ETA: 0s - loss: 0.1321 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9898
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50/50 [==============================] - 7s 141ms/step - loss: 0.1321 - f1_score: 0.9472 - accuracy: 0.9472 - auc: 0.9898 - val_loss: 0.2004 - val_f1_score: 0.9263 - val_accuracy: 0.9264 - val_auc: 0.9818
Epoch 116/500
50/50 [==============================] - ETA: 0s - loss: 0.1213 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9915
Epoch 00116: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 139ms/step - loss: 0.1213 - f1_score: 0.9509 - accuracy: 0.9509 - auc: 0.9915 - val_loss: 0.2051 - val_f1_score: 0.9221 - val_accuracy: 0.9222 - val_auc: 0.9768
Epoch 117/500
50/50 [==============================] - ETA: 0s - loss: 0.1362 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9893
Epoch 00117: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 138ms/step - loss: 0.1362 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9893 - val_loss: 0.2121 - val_f1_score: 0.9227 - val_accuracy: 0.9227 - val_auc: 0.9771
Epoch 118/500
50/50 [==============================] - ETA: 0s - loss: 0.1240 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9909
Epoch 00118: val_accuracy did not improve from 0.92719
50/50 [==============================] - 7s 139ms/step - loss: 0.1240 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9909 - val_loss: 0.1987 - val_f1_score: 0.9258 - val_accuracy: 0.9258 - val_auc: 0.9798
Epoch 119/500
50/50 [==============================] - ETA: 0s - loss: 0.1421 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9895
Epoch 00119: val_accuracy improved from 0.92719 to 0.93000, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.1421 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9895 - val_loss: 0.1948 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9793
Epoch 120/500
50/50 [==============================] - ETA: 0s - loss: 0.1244 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9916
Epoch 00120: val_accuracy improved from 0.93000 to 0.93109, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 142ms/step - loss: 0.1244 - f1_score: 0.9525 - accuracy: 0.9525 - auc: 0.9916 - val_loss: 0.1947 - val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9820
Epoch 121/500
50/50 [==============================] - ETA: 0s - loss: 0.1069 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9947
Epoch 00121: val_accuracy did not improve from 0.93109
50/50 [==============================] - 7s 138ms/step - loss: 0.1069 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9947 - val_loss: 0.2148 - val_f1_score: 0.9185 - val_accuracy: 0.9186 - val_auc: 0.9792
Epoch 122/500
50/50 [==============================] - ETA: 0s - loss: 0.1163 - f1_score: 0.9541 - accuracy: 0.9541 - auc: 0.9922
Epoch 00122: val_accuracy did not improve from 0.93109
50/50 [==============================] - 7s 141ms/step - loss: 0.1163 - f1_score: 0.9541 - accuracy: 0.9541 - auc: 0.9922 - val_loss: 0.2109 - val_f1_score: 0.9289 - val_accuracy: 0.9289 - val_auc: 0.9807
Epoch 123/500
50/50 [==============================] - ETA: 0s - loss: 0.1301 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9910
Epoch 00123: val_accuracy did not improve from 0.93109
50/50 [==============================] - 7s 140ms/step - loss: 0.1301 - f1_score: 0.9506 - accuracy: 0.9506 - auc: 0.9910 - val_loss: 0.2437 - val_f1_score: 0.9079 - val_accuracy: 0.9083 - val_auc: 0.9816
Epoch 124/500
50/50 [==============================] - ETA: 0s - loss: 0.1082 - f1_score: 0.9597 - accuracy: 0.9597 - auc: 0.9936
Epoch 00124: val_accuracy did not improve from 0.93109
50/50 [==============================] - 7s 138ms/step - loss: 0.1082 - f1_score: 0.9597 - accuracy: 0.9597 - auc: 0.9936 - val_loss: 0.2155 - val_f1_score: 0.9272 - val_accuracy: 0.9272 - val_auc: 0.9794
Epoch 125/500
50/50 [==============================] - ETA: 0s - loss: 0.1174 - f1_score: 0.9549 - accuracy: 0.9550 - auc: 0.9917
Epoch 00125: val_accuracy did not improve from 0.93109
50/50 [==============================] - 7s 138ms/step - loss: 0.1174 - f1_score: 0.9549 - accuracy: 0.9550 - auc: 0.9917 - val_loss: 0.2350 - val_f1_score: 0.9175 - val_accuracy: 0.9177 - val_auc: 0.9812
Epoch 126/500
50/50 [==============================] - ETA: 0s - loss: 0.1243 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9911
Epoch 00126: val_accuracy did not improve from 0.93109
50/50 [==============================] - 7s 138ms/step - loss: 0.1243 - f1_score: 0.9484 - accuracy: 0.9484 - auc: 0.9911 - val_loss: 0.1928 - val_f1_score: 0.9309 - val_accuracy: 0.9309 - val_auc: 0.9812
Epoch 127/500
50/50 [==============================] - ETA: 0s - loss: 0.1101 - f1_score: 0.9566 - accuracy: 0.9566 - auc: 0.9931
Epoch 00127: val_accuracy improved from 0.93109 to 0.93344, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 148ms/step - loss: 0.1101 - f1_score: 0.9566 - accuracy: 0.9566 - auc: 0.9931 - val_loss: 0.1971 - val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9819
Epoch 128/500
50/50 [==============================] - ETA: 0s - loss: 0.1379 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9904
Epoch 00128: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 139ms/step - loss: 0.1379 - f1_score: 0.9431 - accuracy: 0.9431 - auc: 0.9904 - val_loss: 0.2470 - val_f1_score: 0.9124 - val_accuracy: 0.9127 - val_auc: 0.9808
Epoch 129/500
50/50 [==============================] - ETA: 0s - loss: 0.1163 - f1_score: 0.9522 - accuracy: 0.9522 - auc: 0.9947
Epoch 00129: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1163 - f1_score: 0.9522 - accuracy: 0.9522 - auc: 0.9947 - val_loss: 0.2124 - val_f1_score: 0.9251 - val_accuracy: 0.9252 - val_auc: 0.9807
Epoch 130/500
50/50 [==============================] - ETA: 0s - loss: 0.1194 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9915
Epoch 00130: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1194 - f1_score: 0.9528 - accuracy: 0.9528 - auc: 0.9915 - val_loss: 0.2585 - val_f1_score: 0.9112 - val_accuracy: 0.9114 - val_auc: 0.9766
Epoch 131/500
50/50 [==============================] - ETA: 0s - loss: 0.1406 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9891
Epoch 00131: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1406 - f1_score: 0.9456 - accuracy: 0.9456 - auc: 0.9891 - val_loss: 0.1956 - val_f1_score: 0.9245 - val_accuracy: 0.9245 - val_auc: 0.9806

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Epoch 132/500
50/50 [==============================] - ETA: 0s - loss: 0.1000 - f1_score: 0.9609 - accuracy: 0.9609 - auc: 0.9938
Epoch 00132: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1000 - f1_score: 0.9609 - accuracy: 0.9609 - auc: 0.9938 - val_loss: 0.1989
- val_f1_score: 0.9292 - val_accuracy: 0.9292 - val_auc: 0.9808
Epoch 133/500
50/50 [==============================] - ETA: 0s - loss: 0.1167 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9926
Epoch 00133: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 139ms/step - loss: 0.1167 - f1_score: 0.9544 - accuracy: 0.9544 - auc: 0.9926 - val_loss: 0.2375
- val_f1_score: 0.9176 - val_accuracy: 0.9178 - val_auc: 0.9791
Epoch 134/500
50/50 [==============================] - ETA: 0s - loss: 0.0989 - f1_score: 0.9641 - accuracy: 0.9641 - auc: 0.9937
Epoch 00134: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0989 - f1_score: 0.9641 - accuracy: 0.9641 - auc: 0.9937 - val_loss: 0.2146
- val_f1_score: 0.9275 - val_accuracy: 0.9275 - val_auc: 0.9809
Epoch 135/500
50/50 [==============================] - ETA: 0s - loss: 0.1119 - f1_score: 0.9569 - accuracy: 0.9569 - auc: 0.9932
Epoch 00135: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1119 - f1_score: 0.9569 - accuracy: 0.9569 - auc: 0.9932 - val_loss: 0.2250
- val_f1_score: 0.9142 - val_accuracy: 0.9144 - val_auc: 0.9811
Epoch 136/500
50/50 [==============================] - ETA: 0s - loss: 0.1116 - f1_score: 0.9559 - accuracy: 0.9559 - auc: 0.9937
Epoch 00136: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1116 - f1_score: 0.9559 - accuracy: 0.9559 - auc: 0.9937 - val_loss: 0.1973
- val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9821
Epoch 137/500
50/50 [==============================] - ETA: 0s - loss: 0.0918 - f1_score: 0.9662 - accuracy: 0.9663 - auc: 0.9948
Epoch 00137: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0918 - f1_score: 0.9662 - accuracy: 0.9663 - auc: 0.9948 - val_loss: 0.2486
- val_f1_score: 0.9141 - val_accuracy: 0.9144 - val_auc: 0.9811
Epoch 138/500
50/50 [==============================] - ETA: 0s - loss: 0.1001 - f1_score: 0.9597 - accuracy: 0.9597 - auc: 0.9960
Epoch 00138: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1001 - f1_score: 0.9597 - accuracy: 0.9597 - auc: 0.9960 - val_loss: 0.2287
- val_f1_score: 0.9212 - val_accuracy: 0.9214 - val_auc: 0.9828
Epoch 139/500
50/50 [==============================] - ETA: 0s - loss: 0.1219 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9924
Epoch 00139: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1219 - f1_score: 0.9500 - accuracy: 0.9500 - auc: 0.9924 - val_loss: 0.2068
- val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9798
Epoch 140/500
50/50 [==============================] - ETA: 0s - loss: 0.1113 - f1_score: 0.9572 - accuracy: 0.9572 - auc: 0.9928
Epoch 00140: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1113 - f1_score: 0.9572 - accuracy: 0.9572 - auc: 0.9928 - val_loss: 0.2229
- val_f1_score: 0.9176 - val_accuracy: 0.9178 - val_auc: 0.9812
Epoch 141/500
50/50 [==============================] - ETA: 0s - loss: 0.1076 - f1_score: 0.9584 - accuracy: 0.9584 - auc: 0.9932
Epoch 00141: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1076 - f1_score: 0.9584 - accuracy: 0.9584 - auc: 0.9932 - val_loss: 0.2166
- val_f1_score: 0.9237 - val_accuracy: 0.9237 - val_auc: 0.9787
Epoch 142/500
50/50 [==============================] - ETA: 0s - loss: 0.1121 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9928
Epoch 00142: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1121 - f1_score: 0.9550 - accuracy: 0.9550 - auc: 0.9928 - val_loss: 0.2136
- val_f1_score: 0.9251 - val_accuracy: 0.9252 - val_auc: 0.9819
Epoch 143/500
50/50 [==============================] - ETA: 0s - loss: 0.1066 - f1_score: 0.9590 - accuracy: 0.9591 - auc: 0.9932
Epoch 00143: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 139ms/step - loss: 0.1066 - f1_score: 0.9590 - accuracy: 0.9591 - auc: 0.9932 - val_loss: 0.2075
- val_f1_score: 0.9281 - val_accuracy: 0.9281 - val_auc: 0.9786
Epoch 144/500
50/50 [==============================] - ETA: 0s - loss: 0.1071 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9940
Epoch 00144: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1071 - f1_score: 0.9587 - accuracy: 0.9588 - auc: 0.9940 - val_loss: 0.2351
- val_f1_score: 0.9144 - val_accuracy: 0.9147 - val_auc: 0.9807
Epoch 145/500
50/50 [==============================] - ETA: 0s - loss: 0.0908 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9957
Epoch 00145: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0908 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9957 - val_loss: 0.2006
- val_f1_score: 0.9325 - val_accuracy: 0.9325 - val_auc: 0.9822
Epoch 146/500
50/50 [==============================] - ETA: 0s - loss: 0.0830 - f1_score: 0.9694 - accuracy: 0.9694 - auc: 0.9959
Epoch 00146: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0830 - f1_score: 0.9694 - accuracy: 0.9694 - auc: 0.9959 - val_loss: 0.2131
- val_f1_score: 0.9281 - val_accuracy: 0.9281 - val_auc: 0.9816
Epoch 147/500
50/50 [==============================] - ETA: 0s - loss: 0.0918 - f1_score: 0.9637 - accuracy: 0.9638 - auc: 0.9956
Epoch 00147: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0918 - f1_score: 0.9637 - accuracy: 0.9638 - auc: 0.9956 - val_loss: 0.2549
- val_f1_score: 0.9219 - val_accuracy: 0.9220 - val_auc: 0.9804
Epoch 148/500
50/50 [==============================] - ETA: 0s - loss: 0.1135 - f1_score: 0.9600 - accuracy: 0.9600 - auc: 0.9932
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Epoch 00148: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1135 - f1_score: 0.9600 - accuracy: 0.9600 - auc: 0.9932 - val_loss: 0.2078 - val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9792
Epoch 149/500
50/50 [==============================] - ETA: 0s - loss: 0.1028 - f1_score: 0.9594 - accuracy: 0.9594 - auc: 0.9939
Epoch 00149: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1028 - f1_score: 0.9594 - accuracy: 0.9594 - auc: 0.9939 - val_loss: 0.2357 - val_f1_score: 0.9134 - val_accuracy: 0.9136 - val_auc: 0.9799
Epoch 150/500
50/50 [==============================] - ETA: 0s - loss: 0.1012 - f1_score: 0.9594 - accuracy: 0.9594 - auc: 0.9939
Epoch 00150: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1012 - f1_score: 0.9594 - accuracy: 0.9594 - auc: 0.9939 - val_loss: 0.1980 - val_f1_score: 0.9329 - val_accuracy: 0.9330 - val_auc: 0.9831
Epoch 151/500
50/50 [==============================] - ETA: 0s - loss: 0.0970 - f1_score: 0.9590 - accuracy: 0.9591 - auc: 0.9950
Epoch 00151: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0970 - f1_score: 0.9590 - accuracy: 0.9591 - auc: 0.9950 - val_loss: 0.2045 - val_f1_score: 0.9262 - val_accuracy: 0.9262 - val_auc: 0.9814
Epoch 152/500
50/50 [==============================] - ETA: 0s - loss: 0.0990 - f1_score: 0.9650 - accuracy: 0.9650 - auc: 0.9944
Epoch 00152: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0990 - f1_score: 0.9650 - accuracy: 0.9650 - auc: 0.9944 - val_loss: 0.2414 - val_f1_score: 0.9181 - val_accuracy: 0.9183 - val_auc: 0.9826
Epoch 153/500
50/50 [==============================] - ETA: 0s - loss: 0.0802 - f1_score: 0.9687 - accuracy: 0.9688 - auc: 0.9967
Epoch 00153: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0802 - f1_score: 0.9687 - accuracy: 0.9688 - auc: 0.9967 - val_loss: 0.2282 - val_f1_score: 0.9241 - val_accuracy: 0.9242 - val_auc: 0.9819
Epoch 154/500
50/50 [==============================] - ETA: 0s - loss: 0.0867 - f1_score: 0.9647 - accuracy: 0.9647 - auc: 0.9960
Epoch 00154: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0867 - f1_score: 0.9647 - accuracy: 0.9647 - auc: 0.9960 - val_loss: 0.2016 - val_f1_score: 0.9295 - val_accuracy: 0.9295 - val_auc: 0.9828
Epoch 155/500
50/50 [==============================] - ETA: 0s - loss: 0.0928 - f1_score: 0.9672 - accuracy: 0.9672 - auc: 0.9948
Epoch 00155: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0928 - f1_score: 0.9672 - accuracy: 0.9672 - auc: 0.9948 - val_loss: 0.2462 - val_f1_score: 0.9173 - val_accuracy: 0.9175 - val_auc: 0.9815
Epoch 156/500
50/50 [==============================] - ETA: 0s - loss: 0.0941 - f1_score: 0.9643 - accuracy: 0.9644 - auc: 0.9953
Epoch 00156: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0941 - f1_score: 0.9643 - accuracy: 0.9644 - auc: 0.9953 - val_loss: 0.1934 - val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9812
Epoch 157/500
50/50 [==============================] - ETA: 0s - loss: 0.0913 - f1_score: 0.9641 - accuracy: 0.9641 - auc: 0.9959
Epoch 00157: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0913 - f1_score: 0.9641 - accuracy: 0.9641 - auc: 0.9959 - val_loss: 0.2246 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9800
Epoch 158/500
50/50 [==============================] - ETA: 0s - loss: 0.1196 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9923
Epoch 00158: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1196 - f1_score: 0.9519 - accuracy: 0.9519 - auc: 0.9923 - val_loss: 0.2810 - val_f1_score: 0.8992 - val_accuracy: 0.8995 - val_auc: 0.9760
Epoch 159/500
50/50 [==============================] - ETA: 0s - loss: 0.0939 - f1_score: 0.9650 - accuracy: 0.9650 - auc: 0.9951
Epoch 00159: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 141ms/step - loss: 0.0939 - f1_score: 0.9650 - accuracy: 0.9650 - auc: 0.9951 - val_loss: 0.2010 - val_f1_score: 0.9281 - val_accuracy: 0.9281 - val_auc: 0.9818
Epoch 160/500
50/50 [==============================] - ETA: 0s - loss: 0.1051 - f1_score: 0.9591 - accuracy: 0.9591 - auc: 0.9936
Epoch 00160: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1051 - f1_score: 0.9591 - accuracy: 0.9591 - auc: 0.9936 - val_loss: 0.2316 - val_f1_score: 0.9169 - val_accuracy: 0.9170 - val_auc: 0.9808
Epoch 161/500
50/50 [==============================] - ETA: 0s - loss: 0.0797 - f1_score: 0.9647 - accuracy: 0.9647 - auc: 0.9961
Epoch 00161: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0797 - f1_score: 0.9647 - accuracy: 0.9647 - auc: 0.9961 - val_loss: 0.2008 - val_f1_score: 0.9328 - val_accuracy: 0.9328 - val_auc: 0.9827
Epoch 162/500
50/50 [==============================] - ETA: 0s - loss: 0.0804 - f1_score: 0.9640 - accuracy: 0.9641 - auc: 0.9964
Epoch 00162: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0804 - f1_score: 0.9640 - accuracy: 0.9641 - auc: 0.9964 - val_loss: 0.2266 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9809
Epoch 163/500
50/50 [==============================] - ETA: 0s - loss: 0.0880 - f1_score: 0.9644 - accuracy: 0.9644 - auc: 0.9950
Epoch 00163: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 139ms/step - loss: 0.0880 - f1_score: 0.9644 - accuracy: 0.9644 - auc: 0.9950 - val_loss: 0.2132 - val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9828
Epoch 164/500
50/50 [==============================] - ETA: 0s - loss: 0.0849 - f1_score: 0.9675 - accuracy: 0.9675 - auc: 0.9959
Epoch 00164: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0849 - f1_score: 0.9675 - accuracy: 0.9675 - auc: 0.9959 - val_loss: 0.2067 - val_f1_score: 0.9283 - val_accuracy: 0.9283 - val_auc: 0.9804

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Epoch 165/500
50/50 [==============================] - ETA: 0s - loss: 0.1029 - f1_score: 0.9609 - accuracy: 0.9609 - auc: 0.9947
Epoch 00165: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.1029 - f1_score: 0.9609 - accuracy: 0.9609 - auc: 0.9947 - val_loss: 0.2302
- val_f1_score: 0.9245 - val_accuracy: 0.9245 - val_auc: 0.9790
Epoch 166/500
50/50 [==============================] - ETA: 0s - loss: 0.1033 - f1_score: 0.9622 - accuracy: 0.9622 - auc: 0.9941
Epoch 00166: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 141ms/step - loss: 0.1033 - f1_score: 0.9622 - accuracy: 0.9622 - auc: 0.9941 - val_loss: 0.2141
- val_f1_score: 0.9296 - val_accuracy: 0.9297 - val_auc: 0.9814
Epoch 167/500
50/50 [==============================] - ETA: 0s - loss: 0.0996 - f1_score: 0.9591 - accuracy: 0.9591 - auc: 0.9946
Epoch 00167: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 142ms/step - loss: 0.0996 - f1_score: 0.9591 - accuracy: 0.9591 - auc: 0.9946 - val_loss: 0.2081
- val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9805
Epoch 168/500
50/50 [==============================] - ETA: 0s - loss: 0.0830 - f1_score: 0.9725 - accuracy: 0.9725 - auc: 0.9970
Epoch 00168: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0830 - f1_score: 0.9725 - accuracy: 0.9725 - auc: 0.9970 - val_loss: 0.2119
- val_f1_score: 0.9271 - val_accuracy: 0.9272 - val_auc: 0.9815
Epoch 169/500
50/50 [==============================] - ETA: 0s - loss: 0.0736 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9971
Epoch 00169: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0736 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9971 - val_loss: 0.2431
- val_f1_score: 0.9215 - val_accuracy: 0.9216 - val_auc: 0.9805
Epoch 170/500
50/50 [==============================] - ETA: 0s - loss: 0.0704 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9971
Epoch 00170: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0704 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9971 - val_loss: 0.2153
- val_f1_score: 0.9328 - val_accuracy: 0.9328 - val_auc: 0.9820
Epoch 171/500
50/50 [==============================] - ETA: 0s - loss: 0.0803 - f1_score: 0.9681 - accuracy: 0.9681 - auc: 0.9965
Epoch 00171: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 139ms/step - loss: 0.0803 - f1_score: 0.9681 - accuracy: 0.9681 - auc: 0.9965 - val_loss: 0.2284
- val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9811
Epoch 172/500
50/50 [==============================] - ETA: 0s - loss: 0.0789 - f1_score: 0.9691 - accuracy: 0.9691 - auc: 0.9960
Epoch 00172: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0789 - f1_score: 0.9691 - accuracy: 0.9691 - auc: 0.9960 - val_loss: 0.2587
- val_f1_score: 0.9233 - val_accuracy: 0.9234 - val_auc: 0.9815
Epoch 173/500
50/50 [==============================] - ETA: 0s - loss: 0.0761 - f1_score: 0.9671 - accuracy: 0.9672 - auc: 0.9977
Epoch 00173: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0761 - f1_score: 0.9671 - accuracy: 0.9672 - auc: 0.9977 - val_loss: 0.2116
- val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9809
Epoch 174/500
50/50 [==============================] - ETA: 0s - loss: 0.0890 - f1_score: 0.9659 - accuracy: 0.9659 - auc: 0.9957
Epoch 00174: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0890 - f1_score: 0.9659 - accuracy: 0.9659 - auc: 0.9957 - val_loss: 0.2042
- val_f1_score: 0.9320 - val_accuracy: 0.9320 - val_auc: 0.9826
Epoch 175/500
50/50 [==============================] - ETA: 0s - loss: 0.0981 - f1_score: 0.9606 - accuracy: 0.9606 - auc: 0.9949
Epoch 00175: val_accuracy did not improve from 0.93344
50/50 [==============================] - 7s 138ms/step - loss: 0.0981 - f1_score: 0.9606 - accuracy: 0.9606 - auc: 0.9949 - val_loss: 0.2329
- val_f1_score: 0.9288 - val_accuracy: 0.9289 - val_auc: 0.9826
Epoch 176/500
50/50 [==============================] - ETA: 0s - loss: 0.0908 - f1_score: 0.9659 - accuracy: 0.9659 - auc: 0.9946
Epoch 00176: val_accuracy improved from 0.93344 to 0.93437, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 146ms/step - loss: 0.0908 - f1_score: 0.9659 - accuracy: 0.9659 - auc: 0.9946 - val_loss: 0.1999
- val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9817
Epoch 177/500
50/50 [==============================] - ETA: 0s - loss: 0.0714 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9972
Epoch 00177: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 138ms/step - loss: 0.0714 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9972 - val_loss: 0.2224
- val_f1_score: 0.9266 - val_accuracy: 0.9266 - val_auc: 0.9795
Epoch 178/500
50/50 [==============================] - ETA: 0s - loss: 0.0718 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9977
Epoch 00178: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 139ms/step - loss: 0.0718 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9977 - val_loss: 0.2364
- val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9804
Epoch 179/500
50/50 [==============================] - ETA: 0s - loss: 0.0755 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9965
Epoch 00179: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 138ms/step - loss: 0.0755 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9965 - val_loss: 0.1960
- val_f1_score: 0.9323 - val_accuracy: 0.9323 - val_auc: 0.9824
Epoch 180/500
50/50 [==============================] - ETA: 0s - loss: 0.0879 - f1_score: 0.9641 - accuracy: 0.9641 - auc: 0.9967
Epoch 00180: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 138ms/step - loss: 0.0879 - f1_score: 0.9641 - accuracy: 0.9641 - auc: 0.9967 - val_loss: 0.2371
- val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9792
Epoch 181/500
50/50 [==============================] - ETA: 0s - loss: 0.0729 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9970
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Epoch 00181: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 139ms/step - loss: 0.0729 - f1_score: 0.9712 - accuracy: 0.9712 - auc: 0.9970 - val_loss: 0.2129 - val_f1_score: 0.9329 - val_accuracy: 0.9330 - val_auc: 0.9819
Epoch 182/500
50/50 [==============================] - ETA: 0s - loss: 0.0714 - f1_score: 0.9700 - accuracy: 0.9700 - auc: 0.9968
Epoch 00182: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 138ms/step - loss: 0.0714 - f1_score: 0.9700 - accuracy: 0.9700 - auc: 0.9968 - val_loss: 0.2179 - val_f1_score: 0.9266 - val_accuracy: 0.9267 - val_auc: 0.9839
Epoch 183/500
50/50 [==============================] - ETA: 0s - loss: 0.0826 - f1_score: 0.9672 - accuracy: 0.9672 - auc: 0.9963
Epoch 00183: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 138ms/step - loss: 0.0826 - f1_score: 0.9672 - accuracy: 0.9672 - auc: 0.9963 - val_loss: 0.2156 - val_f1_score: 0.9304 - val_accuracy: 0.9305 - val_auc: 0.9824
Epoch 184/500
50/50 [==============================] - ETA: 0s - loss: 0.0865 - f1_score: 0.9672 - accuracy: 0.9672 - auc: 0.9966
Epoch 00184: val_accuracy did not improve from 0.93437
50/50 [==============================] - 7s 137ms/step - loss: 0.0865 - f1_score: 0.9672 - accuracy: 0.9672 - auc: 0.9966 - val_loss: 0.2374 - val_f1_score: 0.9230 - val_accuracy: 0.9231 - val_auc: 0.9838
Epoch 185/500
50/50 [==============================] - ETA: 0s - loss: 0.0681 - f1_score: 0.9753 - accuracy: 0.9753 - auc: 0.9975
Epoch 00185: val_accuracy improved from 0.93437 to 0.93453, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 144ms/step - loss: 0.0681 - f1_score: 0.9753 - accuracy: 0.9753 - auc: 0.9975 - val_loss: 0.2157 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9827
Epoch 186/500
50/50 [==============================] - ETA: 0s - loss: 0.0753 - f1_score: 0.9690 - accuracy: 0.9691 - auc: 0.9972
Epoch 00186: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 137ms/step - loss: 0.0753 - f1_score: 0.9690 - accuracy: 0.9691 - auc: 0.9972 - val_loss: 0.2123 - val_f1_score: 0.9333 - val_accuracy: 0.9333 - val_auc: 0.9816
Epoch 187/500
50/50 [==============================] - ETA: 0s - loss: 0.0574 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9984
Epoch 00187: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 138ms/step - loss: 0.0574 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9984 - val_loss: 0.2076 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9838
Epoch 188/500
50/50 [==============================] - ETA: 0s - loss: 0.0786 - f1_score: 0.9691 - accuracy: 0.9691 - auc: 0.9965
Epoch 00188: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 138ms/step - loss: 0.0786 - f1_score: 0.9691 - accuracy: 0.9691 - auc: 0.9965 - val_loss: 0.2337 - val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9801
Epoch 189/500
50/50 [==============================] - ETA: 0s - loss: 0.0826 - f1_score: 0.9647 - accuracy: 0.9647 - auc: 0.9972
Epoch 00189: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 138ms/step - loss: 0.0826 - f1_score: 0.9647 - accuracy: 0.9647 - auc: 0.9972 - val_loss: 0.3038 - val_f1_score: 0.9055 - val_accuracy: 0.9059 - val_auc: 0.9822
Epoch 190/500
50/50 [==============================] - ETA: 0s - loss: 0.0781 - f1_score: 0.9699 - accuracy: 0.9700 - auc: 0.9968
Epoch 00190: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 138ms/step - loss: 0.0781 - f1_score: 0.9699 - accuracy: 0.9700 - auc: 0.9968 - val_loss: 0.2237 - val_f1_score: 0.9306 - val_accuracy: 0.9306 - val_auc: 0.9807
Epoch 191/500
50/50 [==============================] - ETA: 0s - loss: 0.0901 - f1_score: 0.9650 - accuracy: 0.9650 - auc: 0.9953
Epoch 00191: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 139ms/step - loss: 0.0901 - f1_score: 0.9650 - accuracy: 0.9650 - auc: 0.9953 - val_loss: 0.2100 - val_f1_score: 0.9328 - val_accuracy: 0.9328 - val_auc: 0.9810
Epoch 192/500
50/50 [==============================] - ETA: 0s - loss: 0.0741 - f1_score: 0.9700 - accuracy: 0.9700 - auc: 0.9969
Epoch 00192: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 139ms/step - loss: 0.0741 - f1_score: 0.9700 - accuracy: 0.9700 - auc: 0.9969 - val_loss: 0.2612 - val_f1_score: 0.9183 - val_accuracy: 0.9184 - val_auc: 0.9794
Epoch 193/500
50/50 [==============================] - ETA: 0s - loss: 0.0715 - f1_score: 0.9734 - accuracy: 0.9734 - auc: 0.9970
Epoch 00193: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 139ms/step - loss: 0.0715 - f1_score: 0.9734 - accuracy: 0.9734 - auc: 0.9970 - val_loss: 0.2304 - val_f1_score: 0.9287 - val_accuracy: 0.9287 - val_auc: 0.9820
Epoch 194/500
50/50 [==============================] - ETA: 0s - loss: 0.0728 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9971
Epoch 00194: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 138ms/step - loss: 0.0728 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9971 - val_loss: 0.2317 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9817
Epoch 195/500
50/50 [==============================] - ETA: 0s - loss: 0.0849 - f1_score: 0.9666 - accuracy: 0.9666 - auc: 0.9960
Epoch 00195: val_accuracy did not improve from 0.93453
50/50 [==============================] - 7s 138ms/step - loss: 0.0849 - f1_score: 0.9666 - accuracy: 0.9666 - auc: 0.9960 - val_loss: 0.2250 - val_f1_score: 0.9285 - val_accuracy: 0.9286 - val_auc: 0.9819
Epoch 196/500
50/50 [==============================] - ETA: 0s - loss: 0.0663 - f1_score: 0.9772 - accuracy: 0.9772 - auc: 0.9972
Epoch 00196: val_accuracy improved from 0.93453 to 0.93516, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 148ms/step - loss: 0.0663 - f1_score: 0.9772 - accuracy: 0.9772 - auc: 0.9972 - val_loss: 0.2139 - val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9832
Epoch 197/500
50/50 [==============================] - ETA: 0s - loss: 0.0830 - f1_score: 0.9675 - accuracy: 0.9675 - auc: 0.9970
Epoch 00197: val_accuracy improved from 0.93516 to 0.93906, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 141ms/step - loss: 0.0830 - f1_score: 0.9675 - accuracy: 0.9675 - auc: 0.9970 - val_loss: 0.1997 - val_f1_score: 0.9391 - val_accuracy: 0.9391 - val_auc: 0.9827

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Epoch 198/500
50/50 [==============================] - ETA: 0s - loss: 0.0848 - f1_score: 0.9678 - accuracy: 0.9678 - auc: 0.9959
Epoch 00198: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0848 - f1_score: 0.9678 - accuracy: 0.9678 - auc: 0.9959 - val_loss: 0.2105
- val_f1_score: 0.9326 - val_accuracy: 0.9327 - val_auc: 0.9826
Epoch 199/500
50/50 [==============================] - ETA: 0s - loss: 0.0696 - f1_score: 0.9741 - accuracy: 0.9741 - auc: 0.9969
Epoch 00199: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0696 - f1_score: 0.9741 - accuracy: 0.9741 - auc: 0.9969 - val_loss: 0.2309
- val_f1_score: 0.9238 - val_accuracy: 0.9239 - val_auc: 0.9817
Epoch 200/500
50/50 [==============================] - ETA: 0s - loss: 0.0563 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9985
Epoch 00200: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0563 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9985 - val_loss: 0.2248
- val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9837
Epoch 201/500
50/50 [==============================] - ETA: 0s - loss: 0.0528 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9986
Epoch 00201: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0528 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9986 - val_loss: 0.2121
- val_f1_score: 0.9391 - val_accuracy: 0.9391 - val_auc: 0.9835
Epoch 202/500
50/50 [==============================] - ETA: 0s - loss: 0.0545 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9988
Epoch 00202: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 145ms/step - loss: 0.0545 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9988 - val_loss: 0.2245
- val_f1_score: 0.9311 - val_accuracy: 0.9311 - val_auc: 0.9826
Epoch 203/500
50/50 [==============================] - ETA: 0s - loss: 0.0603 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9976
Epoch 00203: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0603 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9976 - val_loss: 0.2376
- val_f1_score: 0.9348 - val_accuracy: 0.9348 - val_auc: 0.9826
Epoch 204/500
50/50 [==============================] - ETA: 0s - loss: 0.0708 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9973
Epoch 00204: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0708 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9973 - val_loss: 0.2277
- val_f1_score: 0.9353 - val_accuracy: 0.9353 - val_auc: 0.9834
Epoch 205/500
50/50 [==============================] - ETA: 0s - loss: 0.0715 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9969
Epoch 00205: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0715 - f1_score: 0.9737 - accuracy: 0.9737 - auc: 0.9969 - val_loss: 0.2893
- val_f1_score: 0.9052 - val_accuracy: 0.9056 - val_auc: 0.9801
Epoch 206/500
50/50 [==============================] - ETA: 0s - loss: 0.0703 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9976
Epoch 00206: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0703 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9976 - val_loss: 0.2522
- val_f1_score: 0.9231 - val_accuracy: 0.9233 - val_auc: 0.9833
Epoch 207/500
50/50 [==============================] - ETA: 0s - loss: 0.0898 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9963
Epoch 00207: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0898 - f1_score: 0.9634 - accuracy: 0.9634 - auc: 0.9963 - val_loss: 0.2326
- val_f1_score: 0.9268 - val_accuracy: 0.9269 - val_auc: 0.9843
Epoch 208/500
50/50 [==============================] - ETA: 0s - loss: 0.0827 - f1_score: 0.9675 - accuracy: 0.9675 - auc: 0.9965
Epoch 00208: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0827 - f1_score: 0.9675 - accuracy: 0.9675 - auc: 0.9965 - val_loss: 0.2068
- val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9828
Epoch 209/500
50/50 [==============================] - ETA: 0s - loss: 0.0547 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9986
Epoch 00209: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0547 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9986 - val_loss: 0.2395
- val_f1_score: 0.9295 - val_accuracy: 0.9295 - val_auc: 0.9837
Epoch 210/500
50/50 [==============================] - ETA: 0s - loss: 0.0587 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9984
Epoch 00210: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 140ms/step - loss: 0.0587 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9984 - val_loss: 0.2540
- val_f1_score: 0.9294 - val_accuracy: 0.9294 - val_auc: 0.9803
Epoch 211/500
50/50 [==============================] - ETA: 0s - loss: 0.0571 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9981
Epoch 00211: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 141ms/step - loss: 0.0571 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9981 - val_loss: 0.2330
- val_f1_score: 0.9305 - val_accuracy: 0.9305 - val_auc: 0.9821
Epoch 212/500
50/50 [==============================] - ETA: 0s - loss: 0.0652 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9975
Epoch 00212: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0652 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9975 - val_loss: 0.2735
- val_f1_score: 0.9264 - val_accuracy: 0.9264 - val_auc: 0.9804
Epoch 213/500
50/50 [==============================] - ETA: 0s - loss: 0.0587 - f1_score: 0.9775 - accuracy: 0.9775 - auc: 0.9980
Epoch 00213: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0587 - f1_score: 0.9775 - accuracy: 0.9775 - auc: 0.9980 - val_loss: 0.2913
- val_f1_score: 0.9134 - val_accuracy: 0.9136 - val_auc: 0.9801
Epoch 214/500
50/50 [==============================] - ETA: 0s - loss: 0.0810 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9967
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50/50 [==============================] - 7s 137ms/step - loss: 0.0810 - f1_score: 0.9703 - accuracy: 0.9703 - auc: 0.9967 - val_loss: 0.2207 - val_f1_score: 0.9316 - val_accuracy: 0.9316 - val_auc: 0.9796
Epoch 215/500
50/50 [==============================] - ETA: 0s - loss: 0.0727 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9968
Epoch 00215: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0727 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9968 - val_loss: 0.2186 - val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9834
Epoch 216/500
50/50 [==============================] - ETA: 0s - loss: 0.0774 - f1_score: 0.9694 - accuracy: 0.9694 - auc: 0.9967
Epoch 00216: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0774 - f1_score: 0.9694 - accuracy: 0.9694 - auc: 0.9967 - val_loss: 0.2139 - val_f1_score: 0.9291 - val_accuracy: 0.9292 - val_auc: 0.9826
Epoch 217/500
50/50 [==============================] - ETA: 0s - loss: 0.0551 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9982
Epoch 00217: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0551 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9982 - val_loss: 0.2588 - val_f1_score: 0.9309 - val_accuracy: 0.9309 - val_auc: 0.9824
Epoch 218/500
50/50 [==============================] - ETA: 0s - loss: 0.0562 - f1_score: 0.9816 - accuracy: 0.9816 - auc: 0.9983
Epoch 00218: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0562 - f1_score: 0.9816 - accuracy: 0.9816 - auc: 0.9983 - val_loss: 0.2466 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9830
Epoch 219/500
50/50 [==============================] - ETA: 0s - loss: 0.0571 - f1_score: 0.9759 - accuracy: 0.9759 - auc: 0.9980
Epoch 00219: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0571 - f1_score: 0.9759 - accuracy: 0.9759 - auc: 0.9980 - val_loss: 0.2159 - val_f1_score: 0.9355 - val_accuracy: 0.9355 - val_auc: 0.9828
Epoch 220/500
50/50 [==============================] - ETA: 0s - loss: 0.0603 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9983
Epoch 00220: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0603 - f1_score: 0.9731 - accuracy: 0.9731 - auc: 0.9983 - val_loss: 0.2611 - val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9830
Epoch 221/500
50/50 [==============================] - ETA: 0s - loss: 0.0596 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9981
Epoch 00221: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0596 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9981 - val_loss: 0.2589 - val_f1_score: 0.9320 - val_accuracy: 0.9320 - val_auc: 0.9811
Epoch 222/500
50/50 [==============================] - ETA: 0s - loss: 0.0712 - f1_score: 0.9719 - accuracy: 0.9719 - auc: 0.9976
Epoch 00222: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0712 - f1_score: 0.9719 - accuracy: 0.9719 - auc: 0.9976 - val_loss: 0.2566 - val_f1_score: 0.9234 - val_accuracy: 0.9236 - val_auc: 0.9841
Epoch 223/500
50/50 [==============================] - ETA: 0s - loss: 0.0578 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9983
Epoch 00223: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0578 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9983 - val_loss: 0.2358 - val_f1_score: 0.9287 - val_accuracy: 0.9287 - val_auc: 0.9831
Epoch 224/500
50/50 [==============================] - ETA: 0s - loss: 0.0616 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9979
Epoch 00224: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0616 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9979 - val_loss: 0.2399 - val_f1_score: 0.9279 - val_accuracy: 0.9280 - val_auc: 0.9815
Epoch 225/500
50/50 [==============================] - ETA: 0s - loss: 0.0554 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9984
Epoch 00225: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0554 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9984 - val_loss: 0.2246 - val_f1_score: 0.9320 - val_accuracy: 0.9320 - val_auc: 0.9826
Epoch 226/500
50/50 [==============================] - ETA: 0s - loss: 0.0456 - f1_score: 0.9831 - accuracy: 0.9831 - auc: 0.9988
Epoch 00226: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0456 - f1_score: 0.9831 - accuracy: 0.9831 - auc: 0.9988 - val_loss: 0.2554 - val_f1_score: 0.9282 - val_accuracy: 0.9283 - val_auc: 0.9822
Epoch 227/500
50/50 [==============================] - ETA: 0s - loss: 0.0558 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9986
Epoch 00227: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0558 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9986 - val_loss: 0.2609 - val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9824
Epoch 228/500
50/50 [==============================] - ETA: 0s - loss: 0.0509 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9984
Epoch 00228: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0509 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9984 - val_loss: 0.2236 - val_f1_score: 0.9369 - val_accuracy: 0.9369 - val_auc: 0.9839
Epoch 229/500
50/50 [==============================] - ETA: 0s - loss: 0.0667 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9970
Epoch 00229: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0667 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9970 - val_loss: 0.2682 - val_f1_score: 0.9182 - val_accuracy: 0.9184 - val_auc: 0.9828
Epoch 230/500
50/50 [==============================] - ETA: 0s - loss: 0.0568 - f1_score: 0.9766 - accuracy: 0.9766 - auc: 0.9988
Epoch 00230: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0568 - f1_score: 0.9766 - accuracy: 0.9766 - auc: 0.9988 - val_loss: 0.2558 - val_f1_score: 0.9288 - val_accuracy: 0.9289 - val_auc: 0.9838

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Epoch 231/500
50/50 [==============================] - ETA: 0s - loss: 0.0502 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9987
Epoch 00231: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0502 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9987 - val_loss: 0.2379
- val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9827
Epoch 232/500
50/50 [==============================] - ETA: 0s - loss: 0.0733 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9975
Epoch 00232: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0733 - f1_score: 0.9722 - accuracy: 0.9722 - auc: 0.9975 - val_loss: 0.2517
- val_f1_score: 0.9255 - val_accuracy: 0.9256 - val_auc: 0.9834
Epoch 233/500
50/50 [==============================] - ETA: 0s - loss: 0.0485 - f1_score: 0.9809 - accuracy: 0.9809 - auc: 0.9988
Epoch 00233: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0485 - f1_score: 0.9809 - accuracy: 0.9809 - auc: 0.9988 - val_loss: 0.2721
- val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9804
Epoch 234/500
50/50 [==============================] - ETA: 0s - loss: 0.0639 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9982
Epoch 00234: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0639 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9982 - val_loss: 0.2586
- val_f1_score: 0.9316 - val_accuracy: 0.9317 - val_auc: 0.9839
Epoch 235/500
50/50 [==============================] - ETA: 0s - loss: 0.0569 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9980
Epoch 00235: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0569 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9980 - val_loss: 0.2287
- val_f1_score: 0.9355 - val_accuracy: 0.9355 - val_auc: 0.9827
Epoch 236/500
50/50 [==============================] - ETA: 0s - loss: 0.0572 - f1_score: 0.9796 - accuracy: 0.9797 - auc: 0.9983
Epoch 00236: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0572 - f1_score: 0.9796 - accuracy: 0.9797 - auc: 0.9983 - val_loss: 0.2313
- val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9827
Epoch 237/500
50/50 [==============================] - ETA: 0s - loss: 0.0638 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9976
Epoch 00237: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 136ms/step - loss: 0.0638 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9976 - val_loss: 0.2217
- val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9827
Epoch 238/500
50/50 [==============================] - ETA: 0s - loss: 0.0598 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9981
Epoch 00238: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0598 - f1_score: 0.9769 - accuracy: 0.9769 - auc: 0.9981 - val_loss: 0.2258
- val_f1_score: 0.9328 - val_accuracy: 0.9328 - val_auc: 0.9834
Epoch 239/500
50/50 [==============================] - ETA: 0s - loss: 0.0562 - f1_score: 0.9791 - accuracy: 0.9791 - auc: 0.9985
Epoch 00239: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 136ms/step - loss: 0.0562 - f1_score: 0.9791 - accuracy: 0.9791 - auc: 0.9985 - val_loss: 0.2288
- val_f1_score: 0.9356 - val_accuracy: 0.9356 - val_auc: 0.9837
Epoch 240/500
50/50 [==============================] - ETA: 0s - loss: 0.0580 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9978
Epoch 00240: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0580 - f1_score: 0.9781 - accuracy: 0.9781 - auc: 0.9978 - val_loss: 0.2210
- val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9825
Epoch 241/500
50/50 [==============================] - ETA: 0s - loss: 0.0414 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9990
Epoch 00241: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0414 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9990 - val_loss: 0.2386
- val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9841
Epoch 242/500
50/50 [==============================] - ETA: 0s - loss: 0.0403 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9991
Epoch 00242: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0403 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9991 - val_loss: 0.2617
- val_f1_score: 0.9312 - val_accuracy: 0.9312 - val_auc: 0.9845
Epoch 243/500
50/50 [==============================] - ETA: 0s - loss: 0.0456 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9986
Epoch 00243: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 136ms/step - loss: 0.0456 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9986 - val_loss: 0.2532
- val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9811
Epoch 244/500
50/50 [==============================] - ETA: 0s - loss: 0.0695 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9970
Epoch 00244: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0695 - f1_score: 0.9750 - accuracy: 0.9750 - auc: 0.9970 - val_loss: 0.2760
- val_f1_score: 0.9242 - val_accuracy: 0.9244 - val_auc: 0.9830
Epoch 245/500
50/50 [==============================] - ETA: 0s - loss: 0.0623 - f1_score: 0.9766 - accuracy: 0.9766 - auc: 0.9979
Epoch 00245: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0623 - f1_score: 0.9766 - accuracy: 0.9766 - auc: 0.9979 - val_loss: 0.2345
- val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9825
Epoch 246/500
50/50 [==============================] - ETA: 0s - loss: 0.0513 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9985
Epoch 00246: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0513 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9985 - val_loss: 0.2202
- val_f1_score: 0.9372 - val_accuracy: 0.9372 - val_auc: 0.9841
Epoch 247/500
50/50 [==============================] - ETA: 0s - loss: 0.0492 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9988
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50/50 [==============================] - 7s 139ms/step - loss: 0.0492 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9988 - val_loss: 0.2649 - val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9824
Epoch 248/500
50/50 [==============================] - ETA: 0s - loss: 0.0611 - f1_score: 0.9816 - accuracy: 0.9816 - auc: 0.9977
Epoch 00248: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0611 - f1_score: 0.9816 - accuracy: 0.9816 - auc: 0.9977 - val_loss: 0.2434 - val_f1_score: 0.9307 - val_accuracy: 0.9308 - val_auc: 0.9825
Epoch 249/500
50/50 [==============================] - ETA: 0s - loss: 0.0450 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9989
Epoch 00249: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 138ms/step - loss: 0.0450 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9989 - val_loss: 0.2449 - val_f1_score: 0.9361 - val_accuracy: 0.9361 - val_auc: 0.9827
Epoch 250/500
50/50 [==============================] - ETA: 0s - loss: 0.0514 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9989
Epoch 00250: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0514 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9989 - val_loss: 0.2481 - val_f1_score: 0.9335 - val_accuracy: 0.9336 - val_auc: 0.9838
Epoch 251/500
50/50 [==============================] - ETA: 0s - loss: 0.0452 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9987
Epoch 00251: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0452 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9987 - val_loss: 0.2286 - val_f1_score: 0.9369 - val_accuracy: 0.9369 - val_auc: 0.9838
Epoch 252/500
50/50 [==============================] - ETA: 0s - loss: 0.0678 - f1_score: 0.9734 - accuracy: 0.9734 - auc: 0.9977
Epoch 00252: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0678 - f1_score: 0.9734 - accuracy: 0.9734 - auc: 0.9977 - val_loss: 0.2540 - val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9825
Epoch 253/500
50/50 [==============================] - ETA: 0s - loss: 0.0486 - f1_score: 0.9784 - accuracy: 0.9784 - auc: 0.9985
Epoch 00253: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0486 - f1_score: 0.9784 - accuracy: 0.9784 - auc: 0.9985 - val_loss: 0.2469 - val_f1_score: 0.9362 - val_accuracy: 0.9362 - val_auc: 0.9836
Epoch 254/500
50/50 [==============================] - ETA: 0s - loss: 0.0605 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9983
Epoch 00254: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0605 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9983 - val_loss: 0.2533 - val_f1_score: 0.9320 - val_accuracy: 0.9320 - val_auc: 0.9823
Epoch 255/500
50/50 [==============================] - ETA: 0s - loss: 0.0544 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9982
Epoch 00255: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0544 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9982 - val_loss: 0.2210 - val_f1_score: 0.9375 - val_accuracy: 0.9375 - val_auc: 0.9836
Epoch 256/500
50/50 [==============================] - ETA: 0s - loss: 0.0524 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9987
Epoch 00256: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 139ms/step - loss: 0.0524 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9987 - val_loss: 0.2975 - val_f1_score: 0.9214 - val_accuracy: 0.9216 - val_auc: 0.9825
Epoch 257/500
50/50 [==============================] - ETA: 0s - loss: 0.0517 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9983
Epoch 00257: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0517 - f1_score: 0.9787 - accuracy: 0.9787 - auc: 0.9983 - val_loss: 0.2605 - val_f1_score: 0.9295 - val_accuracy: 0.9295 - val_auc: 0.9809
Epoch 258/500
50/50 [==============================] - ETA: 0s - loss: 0.0445 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9991
Epoch 00258: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0445 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9991 - val_loss: 0.2768 - val_f1_score: 0.9259 - val_accuracy: 0.9259 - val_auc: 0.9824
Epoch 259/500
50/50 [==============================] - ETA: 0s - loss: 0.0353 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9995
Epoch 00259: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 136ms/step - loss: 0.0353 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9995 - val_loss: 0.2449 - val_f1_score: 0.9383 - val_accuracy: 0.9383 - val_auc: 0.9833
Epoch 260/500
50/50 [==============================] - ETA: 0s - loss: 0.0632 - f1_score: 0.9765 - accuracy: 0.9766 - auc: 0.9978
Epoch 00260: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0632 - f1_score: 0.9765 - accuracy: 0.9766 - auc: 0.9978 - val_loss: 0.2684 - val_f1_score: 0.9243 - val_accuracy: 0.9244 - val_auc: 0.9812
Epoch 261/500
50/50 [==============================] - ETA: 0s - loss: 0.0471 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9987
Epoch 00261: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0471 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9987 - val_loss: 0.3096 - val_f1_score: 0.9149 - val_accuracy: 0.9152 - val_auc: 0.9824
Epoch 262/500
50/50 [==============================] - ETA: 0s - loss: 0.0552 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9989
Epoch 00262: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0552 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9989 - val_loss: 0.2421 - val_f1_score: 0.9375 - val_accuracy: 0.9375 - val_auc: 0.9833
Epoch 263/500
50/50 [==============================] - ETA: 0s - loss: 0.0538 - f1_score: 0.9809 - accuracy: 0.9809 - auc: 0.9985
Epoch 00263: val_accuracy did not improve from 0.93906
50/50 [==============================] - 7s 137ms/step - loss: 0.0538 - f1_score: 0.9809 - accuracy: 0.9809 - auc: 0.9985 - val_loss: 0.2469 - val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9833

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Epoch 264/500
50/50 [==============================] - ETA: 0s - loss: 0.0427 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9989
Epoch 00264: val_accuracy improved from 0.93906 to 0.93953, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 145ms/step - loss: 0.0427 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9989 - val_loss: 0.2297
- val_f1_score: 0.9395 - val_accuracy: 0.9395 - val_auc: 0.9845
Epoch 265/500
50/50 [==============================] - ETA: 0s - loss: 0.0431 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9992
Epoch 00265: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0431 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9992 - val_loss: 0.2398
- val_f1_score: 0.9370 - val_accuracy: 0.9370 - val_auc: 0.9834
Epoch 266/500
50/50 [==============================] - ETA: 0s - loss: 0.0430 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9992
Epoch 00266: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0430 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9992 - val_loss: 0.3379
- val_f1_score: 0.9109 - val_accuracy: 0.9112 - val_auc: 0.9811
Epoch 267/500
50/50 [==============================] - ETA: 0s - loss: 0.0472 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9987
Epoch 00267: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0472 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9987 - val_loss: 0.2553
- val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9819
Epoch 268/500
50/50 [==============================] - ETA: 0s - loss: 0.0480 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9989
Epoch 00268: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0480 - f1_score: 0.9822 - accuracy: 0.9822 - auc: 0.9989 - val_loss: 0.2847
- val_f1_score: 0.9235 - val_accuracy: 0.9236 - val_auc: 0.9819
Epoch 269/500
50/50 [==============================] - ETA: 0s - loss: 0.0456 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9988
Epoch 00269: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0456 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9988 - val_loss: 0.2614
- val_f1_score: 0.9293 - val_accuracy: 0.9294 - val_auc: 0.9818
Epoch 270/500
50/50 [==============================] - ETA: 0s - loss: 0.0416 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9990
Epoch 00270: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0416 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9990 - val_loss: 0.2380
- val_f1_score: 0.9330 - val_accuracy: 0.9330 - val_auc: 0.9818
Epoch 271/500
50/50 [==============================] - ETA: 0s - loss: 0.0477 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9987
Epoch 00271: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0477 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9987 - val_loss: 0.2419
- val_f1_score: 0.9366 - val_accuracy: 0.9366 - val_auc: 0.9827
Epoch 272/500
50/50 [==============================] - ETA: 0s - loss: 0.0482 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9987
Epoch 00272: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0482 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9987 - val_loss: 0.2480
- val_f1_score: 0.9375 - val_accuracy: 0.9375 - val_auc: 0.9822
Epoch 273/500
50/50 [==============================] - ETA: 0s - loss: 0.0306 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9993
Epoch 00273: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0306 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9993 - val_loss: 0.2847
- val_f1_score: 0.9260 - val_accuracy: 0.9261 - val_auc: 0.9822
Epoch 274/500
50/50 [==============================] - ETA: 0s - loss: 0.0356 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9993
Epoch 00274: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0356 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9993 - val_loss: 0.2635
- val_f1_score: 0.9380 - val_accuracy: 0.9380 - val_auc: 0.9828
Epoch 275/500
50/50 [==============================] - ETA: 0s - loss: 0.0436 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9988
Epoch 00275: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0436 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9988 - val_loss: 0.2717
- val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9836
Epoch 276/500
50/50 [==============================] - ETA: 0s - loss: 0.0333 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9994
Epoch 00276: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0333 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9994 - val_loss: 0.2763
- val_f1_score: 0.9395 - val_accuracy: 0.9395 - val_auc: 0.9825
Epoch 277/500
50/50 [==============================] - ETA: 0s - loss: 0.0418 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9989
Epoch 00277: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0418 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9989 - val_loss: 0.2655
- val_f1_score: 0.9318 - val_accuracy: 0.9319 - val_auc: 0.9822
Epoch 278/500
50/50 [==============================] - ETA: 0s - loss: 0.0497 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9989
Epoch 00278: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0497 - f1_score: 0.9803 - accuracy: 0.9803 - auc: 0.9989 - val_loss: 0.2524
- val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9821
Epoch 279/500
50/50 [==============================] - ETA: 0s - loss: 0.0385 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9992
Epoch 00279: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0385 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9992 - val_loss: 0.2706
- val_f1_score: 0.9348 - val_accuracy: 0.9348 - val_auc: 0.9829
Epoch 280/500
50/50 [==============================] - ETA: 0s - loss: 0.0538 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9984
Epoch 00280: val_accuracy did not improve from 0.93953
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50/50 [==============================] - 7s 137ms/step - loss: 0.0538 - f1_score: 0.9778 - accuracy: 0.9778 - auc: 0.9984 - val_loss: 0.2684 - val_f1_score: 0.9333 - val_accuracy: 0.9333 - val_auc: 0.9816
Epoch 281/500
50/50 [==============================] - ETA: 0s - loss: 0.0383 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9991
Epoch 00281: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0383 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9991 - val_loss: 0.2736 - val_f1_score: 0.9304 - val_accuracy: 0.9305 - val_auc: 0.9826
Epoch 282/500
50/50 [==============================] - ETA: 0s - loss: 0.0357 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9994
Epoch 00282: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0357 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9994 - val_loss: 0.2452 - val_f1_score: 0.9367 - val_accuracy: 0.9367 - val_auc: 0.9831
Epoch 283/500
50/50 [==============================] - ETA: 0s - loss: 0.0393 - f1_score: 0.9875 - accuracy: 0.9875 - auc: 0.9991
Epoch 00283: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0393 - f1_score: 0.9875 - accuracy: 0.9875 - auc: 0.9991 - val_loss: 0.3047 - val_f1_score: 0.9266 - val_accuracy: 0.9267 - val_auc: 0.9826
Epoch 284/500
50/50 [==============================] - ETA: 0s - loss: 0.0395 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9991
Epoch 00284: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 139ms/step - loss: 0.0395 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9991 - val_loss: 0.2823 - val_f1_score: 0.9294 - val_accuracy: 0.9294 - val_auc: 0.9801
Epoch 285/500
50/50 [==============================] - ETA: 0s - loss: 0.0392 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9991
Epoch 00285: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0392 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9991 - val_loss: 0.2948 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9834
Epoch 286/500
50/50 [==============================] - ETA: 0s - loss: 0.0735 - f1_score: 0.9709 - accuracy: 0.9709 - auc: 0.9980
Epoch 00286: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0735 - f1_score: 0.9709 - accuracy: 0.9709 - auc: 0.9980 - val_loss: 0.2796 - val_f1_score: 0.9238 - val_accuracy: 0.9239 - val_auc: 0.9819
Epoch 287/500
50/50 [==============================] - ETA: 0s - loss: 0.0463 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9988
Epoch 00287: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0463 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9988 - val_loss: 0.2454 - val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9842
Epoch 288/500
50/50 [==============================] - ETA: 0s - loss: 0.0391 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9991
Epoch 00288: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0391 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9991 - val_loss: 0.2596 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9817
Epoch 289/500
50/50 [==============================] - ETA: 0s - loss: 0.0375 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9994
Epoch 00289: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0375 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9994 - val_loss: 0.3092 - val_f1_score: 0.9269 - val_accuracy: 0.9270 - val_auc: 0.9836
Epoch 290/500
50/50 [==============================] - ETA: 0s - loss: 0.0392 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9990
Epoch 00290: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 140ms/step - loss: 0.0392 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9990 - val_loss: 0.2739 - val_f1_score: 0.9356 - val_accuracy: 0.9356 - val_auc: 0.9820
Epoch 291/500
50/50 [==============================] - ETA: 0s - loss: 0.0343 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9994
Epoch 00291: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0343 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9994 - val_loss: 0.2586 - val_f1_score: 0.9333 - val_accuracy: 0.9333 - val_auc: 0.9823
Epoch 292/500
50/50 [==============================] - ETA: 0s - loss: 0.0368 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9992
Epoch 00292: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0368 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9992 - val_loss: 0.2723 - val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9842
Epoch 293/500
50/50 [==============================] - ETA: 0s - loss: 0.0352 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9995
Epoch 00293: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0352 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9995 - val_loss: 0.2557 - val_f1_score: 0.9358 - val_accuracy: 0.9358 - val_auc: 0.9834
Epoch 294/500
50/50 [==============================] - ETA: 0s - loss: 0.0446 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9990
Epoch 00294: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0446 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9990 - val_loss: 0.2624 - val_f1_score: 0.9369 - val_accuracy: 0.9369 - val_auc: 0.9834
Epoch 295/500
50/50 [==============================] - ETA: 0s - loss: 0.0407 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9991
Epoch 00295: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0407 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9991 - val_loss: 0.3213 - val_f1_score: 0.9249 - val_accuracy: 0.9250 - val_auc: 0.9819
Epoch 296/500
50/50 [==============================] - ETA: 0s - loss: 0.0636 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9980
Epoch 00296: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0636 - f1_score: 0.9762 - accuracy: 0.9762 - auc: 0.9980 - val_loss: 0.2783 - val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9813

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Epoch 297/500
50/50 [==============================] - ETA: 0s - loss: 0.0480 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9988
Epoch 00297: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 137ms/step - loss: 0.0480 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9988 - val_loss: 0.2788
- val_f1_score: 0.9339 - val_accuracy: 0.9339 - val_auc: 0.9825
Epoch 298/500
50/50 [==============================] - ETA: 0s - loss: 0.0346 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9993
Epoch 00298: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0346 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9993 - val_loss: 0.2688
- val_f1_score: 0.9378 - val_accuracy: 0.9378 - val_auc: 0.9837
Epoch 299/500
50/50 [==============================] - ETA: 0s - loss: 0.0473 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9989
Epoch 00299: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 139ms/step - loss: 0.0473 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9989 - val_loss: 0.3180
- val_f1_score: 0.9214 - val_accuracy: 0.9216 - val_auc: 0.9832
Epoch 300/500
50/50 [==============================] - ETA: 0s - loss: 0.0404 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9991
Epoch 00300: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 141ms/step - loss: 0.0404 - f1_score: 0.9853 - accuracy: 0.9853 - auc: 0.9991 - val_loss: 0.2514
- val_f1_score: 0.9378 - val_accuracy: 0.9378 - val_auc: 0.9832
Epoch 301/500
50/50 [==============================] - ETA: 0s - loss: 0.0421 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9991
Epoch 00301: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 139ms/step - loss: 0.0421 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9991 - val_loss: 0.2631
- val_f1_score: 0.9340 - val_accuracy: 0.9341 - val_auc: 0.9851
Epoch 302/500
50/50 [==============================] - ETA: 0s - loss: 0.0481 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9987
Epoch 00302: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0481 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9987 - val_loss: 0.3092
- val_f1_score: 0.9227 - val_accuracy: 0.9228 - val_auc: 0.9826
Epoch 303/500
50/50 [==============================] - ETA: 0s - loss: 0.0490 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9987
Epoch 00303: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0490 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9987 - val_loss: 0.2985
- val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9824
Epoch 304/500
50/50 [==============================] - ETA: 0s - loss: 0.0604 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9983
Epoch 00304: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0604 - f1_score: 0.9794 - accuracy: 0.9794 - auc: 0.9983 - val_loss: 0.2485
- val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9842
Epoch 305/500
50/50 [==============================] - ETA: 0s - loss: 0.0313 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9994
Epoch 00305: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0313 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9994 - val_loss: 0.3050
- val_f1_score: 0.9290 - val_accuracy: 0.9291 - val_auc: 0.9818
Epoch 306/500
50/50 [==============================] - ETA: 0s - loss: 0.0376 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9992
Epoch 00306: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0376 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9992 - val_loss: 0.2680
- val_f1_score: 0.9325 - val_accuracy: 0.9325 - val_auc: 0.9830
Epoch 307/500
50/50 [==============================] - ETA: 0s - loss: 0.0363 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995
Epoch 00307: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0363 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995 - val_loss: 0.2691
- val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9820
Epoch 308/500
50/50 [==============================] - ETA: 0s - loss: 0.0361 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9992
Epoch 00308: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0361 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9992 - val_loss: 0.3037
- val_f1_score: 0.9260 - val_accuracy: 0.9261 - val_auc: 0.9835
Epoch 309/500
50/50 [==============================] - ETA: 0s - loss: 0.0331 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9995
Epoch 00309: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0331 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9995 - val_loss: 0.2781
- val_f1_score: 0.9339 - val_accuracy: 0.9339 - val_auc: 0.9828
Epoch 310/500
50/50 [==============================] - ETA: 0s - loss: 0.0511 - f1_score: 0.9816 - accuracy: 0.9816 - auc: 0.9991
Epoch 00310: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0511 - f1_score: 0.9816 - accuracy: 0.9816 - auc: 0.9991 - val_loss: 0.2649
- val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9807
Epoch 311/500
50/50 [==============================] - ETA: 0s - loss: 0.0494 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9993
Epoch 00311: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0494 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9993 - val_loss: 0.2515
- val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9822
Epoch 312/500
50/50 [==============================] - ETA: 0s - loss: 0.0553 - f1_score: 0.9793 - accuracy: 0.9794 - auc: 0.9988
Epoch 00312: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0553 - f1_score: 0.9793 - accuracy: 0.9794 - auc: 0.9988 - val_loss: 0.3671
- val_f1_score: 0.9163 - val_accuracy: 0.9166 - val_auc: 0.9824
Epoch 313/500
50/50 [==============================] - ETA: 0s - loss: 0.0469 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9989
Epoch 00313: val_accuracy did not improve from 0.93953
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50/50 [==============================] - 7s 138ms/step - loss: 0.0469 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9989 - val_loss: 0.3073 - val_f1_score: 0.9290 - val_accuracy: 0.9291 - val_auc: 0.9810
Epoch 314/500
50/50 [==============================] - ETA: 0s - loss: 0.0359 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9995
Epoch 00314: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0359 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9995 - val_loss: 0.2606 - val_f1_score: 0.9353 - val_accuracy: 0.9353 - val_auc: 0.9819
Epoch 315/500
50/50 [==============================] - ETA: 0s - loss: 0.0512 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9987
Epoch 00315: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0512 - f1_score: 0.9800 - accuracy: 0.9800 - auc: 0.9987 - val_loss: 0.2713 - val_f1_score: 0.9309 - val_accuracy: 0.9309 - val_auc: 0.9811
Epoch 316/500
50/50 [==============================] - ETA: 0s - loss: 0.0555 - f1_score: 0.9784 - accuracy: 0.9784 - auc: 0.9989
Epoch 00316: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0555 - f1_score: 0.9784 - accuracy: 0.9784 - auc: 0.9989 - val_loss: 0.2919 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9818
Epoch 317/500
50/50 [==============================] - ETA: 0s - loss: 0.0263 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998
Epoch 00317: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0263 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998 - val_loss: 0.2795 - val_f1_score: 0.9362 - val_accuracy: 0.9362 - val_auc: 0.9823
Epoch 318/500
50/50 [==============================] - ETA: 0s - loss: 0.0459 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9992
Epoch 00318: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0459 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9992 - val_loss: 0.2861 - val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9809
Epoch 319/500
50/50 [==============================] - ETA: 0s - loss: 0.0381 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9994
Epoch 00319: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0381 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9994 - val_loss: 0.2655 - val_f1_score: 0.9364 - val_accuracy: 0.9364 - val_auc: 0.9823
Epoch 320/500
50/50 [==============================] - ETA: 0s - loss: 0.0405 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992
Epoch 00320: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 139ms/step - loss: 0.0405 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992 - val_loss: 0.2657 - val_f1_score: 0.9319 - val_accuracy: 0.9319 - val_auc: 0.9815
Epoch 321/500
50/50 [==============================] - ETA: 0s - loss: 0.0265 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9997
Epoch 00321: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0265 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9997 - val_loss: 0.3059 - val_f1_score: 0.9332 - val_accuracy: 0.9333 - val_auc: 0.9824
Epoch 322/500
50/50 [==============================] - ETA: 0s - loss: 0.0336 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9993
Epoch 00322: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0336 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9993 - val_loss: 0.2664 - val_f1_score: 0.9390 - val_accuracy: 0.9391 - val_auc: 0.9846
Epoch 323/500
50/50 [==============================] - ETA: 0s - loss: 0.0263 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9996
Epoch 00323: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0263 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9996 - val_loss: 0.3263 - val_f1_score: 0.9317 - val_accuracy: 0.9317 - val_auc: 0.9816
Epoch 324/500
50/50 [==============================] - ETA: 0s - loss: 0.0437 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9989
Epoch 00324: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0437 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9989 - val_loss: 0.3384 - val_f1_score: 0.9271 - val_accuracy: 0.9272 - val_auc: 0.9823
Epoch 325/500
50/50 [==============================] - ETA: 0s - loss: 0.0399 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9990
Epoch 00325: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0399 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9990 - val_loss: 0.2705 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9827
Epoch 326/500
50/50 [==============================] - ETA: 0s - loss: 0.0392 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9993
Epoch 00326: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0392 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9993 - val_loss: 0.2996 - val_f1_score: 0.9368 - val_accuracy: 0.9369 - val_auc: 0.9831
Epoch 327/500
50/50 [==============================] - ETA: 0s - loss: 0.0454 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9992
Epoch 00327: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0454 - f1_score: 0.9812 - accuracy: 0.9812 - auc: 0.9992 - val_loss: 0.2716 - val_f1_score: 0.9380 - val_accuracy: 0.9380 - val_auc: 0.9833
Epoch 328/500
50/50 [==============================] - ETA: 0s - loss: 0.0451 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9988
Epoch 00328: val_accuracy did not improve from 0.93953
50/50 [==============================] - 7s 138ms/step - loss: 0.0451 - f1_score: 0.9806 - accuracy: 0.9806 - auc: 0.9988 - val_loss: 0.2540 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9825
Epoch 329/500
50/50 [==============================] - ETA: 0s - loss: 0.0283 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9993
Epoch 00329: val_accuracy improved from 0.93953 to 0.94031, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 8s 166ms/step - loss: 0.0283 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9993 - val_loss: 0.2689 - val_f1_score: 0.9403 - val_accuracy: 0.9403 - val_auc: 0.9836

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Epoch 330/500
50/50 [==============================] - ETA: 0s - loss: 0.0306 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995
Epoch 00330: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0306 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995 - val_loss: 0.2739
- val_f1_score: 0.9389 - val_accuracy: 0.9389 - val_auc: 0.9823
Epoch 331/500
50/50 [==============================] - ETA: 0s - loss: 0.0274 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9997
Epoch 00331: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0274 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9997 - val_loss: 0.2765
- val_f1_score: 0.9367 - val_accuracy: 0.9367 - val_auc: 0.9814
Epoch 332/500
50/50 [==============================] - ETA: 0s - loss: 0.0322 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9995
Epoch 00332: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0322 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9995 - val_loss: 0.2671
- val_f1_score: 0.9386 - val_accuracy: 0.9386 - val_auc: 0.9841
Epoch 333/500
50/50 [==============================] - ETA: 0s - loss: 0.0330 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9994
Epoch 00333: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0330 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9994 - val_loss: 0.2779
- val_f1_score: 0.9394 - val_accuracy: 0.9394 - val_auc: 0.9836
Epoch 334/500
50/50 [==============================] - ETA: 0s - loss: 0.0437 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9990
Epoch 00334: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 140ms/step - loss: 0.0437 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9990 - val_loss: 0.2896
- val_f1_score: 0.9312 - val_accuracy: 0.9312 - val_auc: 0.9827
Epoch 335/500
50/50 [==============================] - ETA: 0s - loss: 0.0348 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9994
Epoch 00335: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0348 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9994 - val_loss: 0.2753
- val_f1_score: 0.9361 - val_accuracy: 0.9361 - val_auc: 0.9831
Epoch 336/500
50/50 [==============================] - ETA: 0s - loss: 0.0337 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9992
Epoch 00336: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0337 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9992 - val_loss: 0.2947
- val_f1_score: 0.9318 - val_accuracy: 0.9319 - val_auc: 0.9825
Epoch 337/500
50/50 [==============================] - ETA: 0s - loss: 0.0211 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997
Epoch 00337: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0211 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997 - val_loss: 0.2884
- val_f1_score: 0.9339 - val_accuracy: 0.9339 - val_auc: 0.9835
Epoch 338/500
50/50 [==============================] - ETA: 0s - loss: 0.0220 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00338: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0220 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.2909
- val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9831
Epoch 339/500
50/50 [==============================] - ETA: 0s - loss: 0.0244 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9997
Epoch 00339: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0244 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9997 - val_loss: 0.3045
- val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9826
Epoch 340/500
50/50 [==============================] - ETA: 0s - loss: 0.0503 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9993
Epoch 00340: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0503 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9993 - val_loss: 0.3302
- val_f1_score: 0.9220 - val_accuracy: 0.9222 - val_auc: 0.9815
Epoch 341/500
50/50 [==============================] - ETA: 0s - loss: 0.0425 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9989
Epoch 00341: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0425 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9989 - val_loss: 0.3014
- val_f1_score: 0.9280 - val_accuracy: 0.9281 - val_auc: 0.9823
Epoch 342/500
50/50 [==============================] - ETA: 0s - loss: 0.0401 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9991
Epoch 00342: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0401 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9991 - val_loss: 0.2737
- val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9815
Epoch 343/500
50/50 [==============================] - ETA: 0s - loss: 0.0393 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9991
Epoch 00343: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0393 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9991 - val_loss: 0.2973
- val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9819
Epoch 344/500
50/50 [==============================] - ETA: 0s - loss: 0.0334 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9995
Epoch 00344: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 142ms/step - loss: 0.0334 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9995 - val_loss: 0.2742
- val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9813
Epoch 345/500
50/50 [==============================] - ETA: 0s - loss: 0.0278 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996
Epoch 00345: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 140ms/step - loss: 0.0278 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996 - val_loss: 0.3015
- val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9820
Epoch 346/500
50/50 [==============================] - ETA: 0s - loss: 0.0293 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9994
Epoch 00346: val_accuracy did not improve from 0.94031
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50/50 [==============================] - 7s 139ms/step - loss: 0.0293 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9994 - val_loss: 0.2996 - val_f1_score: 0.9361 - val_accuracy: 0.9361 - val_auc: 0.9824
Epoch 347/500
50/50 [==============================] - ETA: 0s - loss: 0.0259 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997
Epoch 00347: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0259 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997 - val_loss: 0.2966 - val_f1_score: 0.9312 - val_accuracy: 0.9312 - val_auc: 0.9815
Epoch 348/500
50/50 [==============================] - ETA: 0s - loss: 0.0318 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9996
Epoch 00348: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0318 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9996 - val_loss: 0.2800 - val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9819
Epoch 349/500
50/50 [==============================] - ETA: 0s - loss: 0.0409 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992
Epoch 00349: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0409 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992 - val_loss: 0.2835 - val_f1_score: 0.9307 - val_accuracy: 0.9308 - val_auc: 0.9823
Epoch 350/500
50/50 [==============================] - ETA: 0s - loss: 0.0436 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9992
Epoch 00350: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0436 - f1_score: 0.9841 - accuracy: 0.9841 - auc: 0.9992 - val_loss: 0.2697 - val_f1_score: 0.9352 - val_accuracy: 0.9352 - val_auc: 0.9825
Epoch 351/500
50/50 [==============================] - ETA: 0s - loss: 0.0364 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9991
Epoch 00351: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0364 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9991 - val_loss: 0.2905 - val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9827
Epoch 352/500
50/50 [==============================] - ETA: 0s - loss: 0.0404 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9995
Epoch 00352: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0404 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9995 - val_loss: 0.3166 - val_f1_score: 0.9256 - val_accuracy: 0.9256 - val_auc: 0.9828
Epoch 353/500
50/50 [==============================] - ETA: 0s - loss: 0.0401 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9993
Epoch 00353: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0401 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9993 - val_loss: 0.3164 - val_f1_score: 0.9233 - val_accuracy: 0.9234 - val_auc: 0.9816
Epoch 354/500
50/50 [==============================] - ETA: 0s - loss: 0.0251 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9994
Epoch 00354: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0251 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9994 - val_loss: 0.3336 - val_f1_score: 0.9180 - val_accuracy: 0.9181 - val_auc: 0.9810
Epoch 355/500
50/50 [==============================] - ETA: 0s - loss: 0.0368 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9995
Epoch 00355: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0368 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9995 - val_loss: 0.3048 - val_f1_score: 0.9322 - val_accuracy: 0.9322 - val_auc: 0.9827
Epoch 356/500
50/50 [==============================] - ETA: 0s - loss: 0.0281 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9995
Epoch 00356: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0281 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9995 - val_loss: 0.3088 - val_f1_score: 0.9273 - val_accuracy: 0.9273 - val_auc: 0.9806
Epoch 357/500
50/50 [==============================] - ETA: 0s - loss: 0.0283 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996
Epoch 00357: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0283 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996 - val_loss: 0.2875 - val_f1_score: 0.9326 - val_accuracy: 0.9327 - val_auc: 0.9821
Epoch 358/500
50/50 [==============================] - ETA: 0s - loss: 0.0359 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9993
Epoch 00358: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0359 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9993 - val_loss: 0.2930 - val_f1_score: 0.9243 - val_accuracy: 0.9244 - val_auc: 0.9817
Epoch 359/500
50/50 [==============================] - ETA: 0s - loss: 0.0339 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9996
Epoch 00359: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0339 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9996 - val_loss: 0.2966 - val_f1_score: 0.9321 - val_accuracy: 0.9322 - val_auc: 0.9831
Epoch 360/500
50/50 [==============================] - ETA: 0s - loss: 0.0391 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9994
Epoch 00360: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0391 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9994 - val_loss: 0.3271 - val_f1_score: 0.9276 - val_accuracy: 0.9277 - val_auc: 0.9824
Epoch 361/500
50/50 [==============================] - ETA: 0s - loss: 0.0248 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9998
Epoch 00361: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0248 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9998 - val_loss: 0.2949 - val_f1_score: 0.9323 - val_accuracy: 0.9323 - val_auc: 0.9826
Epoch 362/500
50/50 [==============================] - ETA: 0s - loss: 0.0174 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9998
Epoch 00362: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0174 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9998 - val_loss: 0.2928 - val_f1_score: 0.9303 - val_accuracy: 0.9303 - val_auc: 0.9828

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Epoch 363/500
50/50 [==============================] - ETA: 0s - loss: 0.0326 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9994
Epoch 00363: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0326 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9994 - val_loss: 0.2725
- val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9834
Epoch 364/500
50/50 [==============================] - ETA: 0s - loss: 0.0418 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9990
Epoch 00364: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0418 - f1_score: 0.9837 - accuracy: 0.9837 - auc: 0.9990 - val_loss: 0.3420
- val_f1_score: 0.9228 - val_accuracy: 0.9230 - val_auc: 0.9831
Epoch 365/500
50/50 [==============================] - ETA: 0s - loss: 0.0403 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9991
Epoch 00365: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0403 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9991 - val_loss: 0.2791
- val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9816
Epoch 366/500
50/50 [==============================] - ETA: 0s - loss: 0.0296 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9995
Epoch 00366: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0296 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9995 - val_loss: 0.2950
- val_f1_score: 0.9290 - val_accuracy: 0.9291 - val_auc: 0.9833
Epoch 367/500
50/50 [==============================] - ETA: 0s - loss: 0.0282 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9996
Epoch 00367: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0282 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9996 - val_loss: 0.3174
- val_f1_score: 0.9296 - val_accuracy: 0.9297 - val_auc: 0.9819
Epoch 368/500
50/50 [==============================] - ETA: 0s - loss: 0.0317 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9994
Epoch 00368: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0317 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9994 - val_loss: 0.2881
- val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9820
Epoch 369/500
50/50 [==============================] - ETA: 0s - loss: 0.0331 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9994
Epoch 00369: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0331 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9994 - val_loss: 0.3304
- val_f1_score: 0.9247 - val_accuracy: 0.9248 - val_auc: 0.9837
Epoch 370/500
50/50 [==============================] - ETA: 0s - loss: 0.0208 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997
Epoch 00370: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0208 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997 - val_loss: 0.3011
- val_f1_score: 0.9268 - val_accuracy: 0.9269 - val_auc: 0.9814
Epoch 371/500
50/50 [==============================] - ETA: 0s - loss: 0.0444 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9989
Epoch 00371: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0444 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9989 - val_loss: 0.2892
- val_f1_score: 0.9328 - val_accuracy: 0.9328 - val_auc: 0.9825
Epoch 372/500
50/50 [==============================] - ETA: 0s - loss: 0.0418 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9992
Epoch 00372: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0418 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9992 - val_loss: 0.3305
- val_f1_score: 0.9238 - val_accuracy: 0.9239 - val_auc: 0.9821
Epoch 373/500
50/50 [==============================] - ETA: 0s - loss: 0.0468 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9990
Epoch 00373: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0468 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9990 - val_loss: 0.3117
- val_f1_score: 0.9286 - val_accuracy: 0.9286 - val_auc: 0.9797
Epoch 374/500
50/50 [==============================] - ETA: 0s - loss: 0.0493 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9986
Epoch 00374: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0493 - f1_score: 0.9819 - accuracy: 0.9819 - auc: 0.9986 - val_loss: 0.3206
- val_f1_score: 0.9309 - val_accuracy: 0.9309 - val_auc: 0.9801
Epoch 375/500
50/50 [==============================] - ETA: 0s - loss: 0.0403 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9990
Epoch 00375: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 140ms/step - loss: 0.0403 - f1_score: 0.9844 - accuracy: 0.9844 - auc: 0.9990 - val_loss: 0.2913
- val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9829
Epoch 376/500
50/50 [==============================] - ETA: 0s - loss: 0.0406 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992
Epoch 00376: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0406 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992 - val_loss: 0.3037
- val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9815
Epoch 377/500
50/50 [==============================] - ETA: 0s - loss: 0.0271 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996
Epoch 00377: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 144ms/step - loss: 0.0271 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996 - val_loss: 0.2945
- val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9821
Epoch 378/500
50/50 [==============================] - ETA: 0s - loss: 0.0323 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9992
Epoch 00378: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0323 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9992 - val_loss: 0.2961
- val_f1_score: 0.9348 - val_accuracy: 0.9348 - val_auc: 0.9835
Epoch 379/500
50/50 [==============================] - ETA: 0s - loss: 0.0275 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9995
Epoch 00379: val_accuracy did not improve from 0.94031
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50/50 [==============================] - 7s 138ms/step - loss: 0.0275 - f1_score: 0.9900 - accuracy: 0.9900 - auc: 0.9995 - val_loss: 0.3237
- val_f1_score: 0.9299 - val_accuracy: 0.9300 - val_auc: 0.9843
Epoch 380/500
50/50 [==============================] - ETA: 0s - loss: 0.0241 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9996
Epoch 00380: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0241 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9996 - val_loss: 0.2925
- val_f1_score: 0.9347 - val_accuracy: 0.9347 - val_auc: 0.9830
Epoch 381/500
50/50 [==============================] - ETA: 0s - loss: 0.0306 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9994
Epoch 00381: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0306 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9994 - val_loss: 0.2916
- val_f1_score: 0.9377 - val_accuracy: 0.9377 - val_auc: 0.9839
Epoch 382/500
50/50 [==============================] - ETA: 0s - loss: 0.0306 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9994
Epoch 00382: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0306 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9994 - val_loss: 0.3016
- val_f1_score: 0.9333 - val_accuracy: 0.9333 - val_auc: 0.9822
Epoch 383/500
50/50 [==============================] - ETA: 0s - loss: 0.0266 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9995
Epoch 00383: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0266 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9995 - val_loss: 0.3142
- val_f1_score: 0.9355 - val_accuracy: 0.9355 - val_auc: 0.9828
Epoch 384/500
50/50 [==============================] - ETA: 0s - loss: 0.0398 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9993
Epoch 00384: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0398 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9993 - val_loss: 0.3099
- val_f1_score: 0.9280 - val_accuracy: 0.9280 - val_auc: 0.9801
Epoch 385/500
50/50 [==============================] - ETA: 0s - loss: 0.0436 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9990
Epoch 00385: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0436 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9990 - val_loss: 0.3464
- val_f1_score: 0.9252 - val_accuracy: 0.9253 - val_auc: 0.9811
Epoch 386/500
50/50 [==============================] - ETA: 0s - loss: 0.0451 - f1_score: 0.9831 - accuracy: 0.9831 - auc: 0.9994
Epoch 00386: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0451 - f1_score: 0.9831 - accuracy: 0.9831 - auc: 0.9994 - val_loss: 0.2821
- val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9832
Epoch 387/500
50/50 [==============================] - ETA: 0s - loss: 0.0374 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9991
Epoch 00387: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0374 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9991 - val_loss: 0.2755
- val_f1_score: 0.9292 - val_accuracy: 0.9292 - val_auc: 0.9804
Epoch 388/500
50/50 [==============================] - ETA: 0s - loss: 0.0276 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9995
Epoch 00388: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 141ms/step - loss: 0.0276 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9995 - val_loss: 0.3412
- val_f1_score: 0.9217 - val_accuracy: 0.9219 - val_auc: 0.9830
Epoch 389/500
50/50 [==============================] - ETA: 0s - loss: 0.0314 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9992
Epoch 00389: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 140ms/step - loss: 0.0314 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9992 - val_loss: 0.2902
- val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9840
Epoch 390/500
50/50 [==============================] - ETA: 0s - loss: 0.0394 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9995
Epoch 00390: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0394 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9995 - val_loss: 0.2518
- val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9834
Epoch 391/500
50/50 [==============================] - ETA: 0s - loss: 0.0253 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997
Epoch 00391: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0253 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997 - val_loss: 0.2799
- val_f1_score: 0.9361 - val_accuracy: 0.9361 - val_auc: 0.9838
Epoch 392/500
50/50 [==============================] - ETA: 0s - loss: 0.0201 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9999
Epoch 00392: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0201 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9999 - val_loss: 0.3144
- val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9828
Epoch 393/500
50/50 [==============================] - ETA: 0s - loss: 0.0235 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997
Epoch 00393: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0235 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997 - val_loss: 0.3065
- val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9834
Epoch 394/500
50/50 [==============================] - ETA: 0s - loss: 0.0279 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996
Epoch 00394: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0279 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996 - val_loss: 0.2905
- val_f1_score: 0.9347 - val_accuracy: 0.9347 - val_auc: 0.9838
Epoch 395/500
50/50 [==============================] - ETA: 0s - loss: 0.0187 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00395: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0187 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.3000
- val_f1_score: 0.9383 - val_accuracy: 0.9383 - val_auc: 0.9824
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Epoch 396/500
50/50 [==============================] - ETA: 0s - loss: 0.0307 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995
Epoch 00396: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0307 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995 - val_loss: 0.3338 - val_f1_score: 0.9317 - val_accuracy: 0.9317 - val_auc: 0.9814
Epoch 397/500
50/50 [==============================] - ETA: 0s - loss: 0.0343 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9996
Epoch 00397: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0343 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9996 - val_loss: 0.3482 - val_f1_score: 0.9321 - val_accuracy: 0.9322 - val_auc: 0.9823
Epoch 398/500
50/50 [==============================] - ETA: 0s - loss: 0.0318 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9994
Epoch 00398: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0318 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9994 - val_loss: 0.3345 - val_f1_score: 0.9310 - val_accuracy: 0.9311 - val_auc: 0.9818
Epoch 399/500
50/50 [==============================] - ETA: 0s - loss: 0.0362 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992
Epoch 00399: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0362 - f1_score: 0.9862 - accuracy: 0.9862 - auc: 0.9992 - val_loss: 0.2945 - val_f1_score: 0.9361 - val_accuracy: 0.9361 - val_auc: 0.9828
Epoch 400/500
50/50 [==============================] - ETA: 0s - loss: 0.0392 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9994
Epoch 00400: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0392 - f1_score: 0.9859 - accuracy: 0.9859 - auc: 0.9994 - val_loss: 0.2818 - val_f1_score: 0.9326 - val_accuracy: 0.9327 - val_auc: 0.9818
Epoch 401/500
50/50 [==============================] - ETA: 0s - loss: 0.0324 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9997
Epoch 00401: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0324 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9997 - val_loss: 0.3060 - val_f1_score: 0.9355 - val_accuracy: 0.9355 - val_auc: 0.9820
Epoch 402/500
50/50 [==============================] - ETA: 0s - loss: 0.0213 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9999
Epoch 00402: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0213 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9999 - val_loss: 0.2703 - val_f1_score: 0.9395 - val_accuracy: 0.9395 - val_auc: 0.9836
Epoch 403/500
50/50 [==============================] - ETA: 0s - loss: 0.0197 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00403: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0197 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.3049 - val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9831
Epoch 404/500
50/50 [==============================] - ETA: 0s - loss: 0.0189 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997
Epoch 00404: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0189 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997 - val_loss: 0.3456 - val_f1_score: 0.9295 - val_accuracy: 0.9295 - val_auc: 0.9818
Epoch 405/500
50/50 [==============================] - ETA: 0s - loss: 0.0361 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9995
Epoch 00405: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0361 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9995 - val_loss: 0.2913 - val_f1_score: 0.9370 - val_accuracy: 0.9370 - val_auc: 0.9811
Epoch 406/500
50/50 [==============================] - ETA: 0s - loss: 0.0386 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9993
Epoch 00406: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 138ms/step - loss: 0.0386 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9993 - val_loss: 0.3290 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9802
Epoch 407/500
50/50 [==============================] - ETA: 0s - loss: 0.0279 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996
Epoch 00407: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0279 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996 - val_loss: 0.3244 - val_f1_score: 0.9335 - val_accuracy: 0.9336 - val_auc: 0.9831
Epoch 408/500
50/50 [==============================] - ETA: 0s - loss: 0.0299 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9997
Epoch 00408: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 137ms/step - loss: 0.0299 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9997 - val_loss: 0.2918 - val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9808
Epoch 409/500
50/50 [==============================] - ETA: 0s - loss: 0.0277 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997
Epoch 00409: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0277 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997 - val_loss: 0.3047 - val_f1_score: 0.9356 - val_accuracy: 0.9356 - val_auc: 0.9824
Epoch 410/500
50/50 [==============================] - ETA: 0s - loss: 0.0202 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997
Epoch 00410: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0202 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997 - val_loss: 0.3076 - val_f1_score: 0.9398 - val_accuracy: 0.9398 - val_auc: 0.9826
Epoch 411/500
50/50 [==============================] - ETA: 0s - loss: 0.0304 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995
Epoch 00411: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0304 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995 - val_loss: 0.3432 - val_f1_score: 0.9301 - val_accuracy: 0.9302 - val_auc: 0.9805
Epoch 412/500
50/50 [==============================] - ETA: 0s - loss: 0.0263 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9995
Epoch 00412: val_accuracy did not improve from 0.94031

50/50 [==============================] - 7s 139ms/step - loss: 0.0263 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9995 - val_loss: 0.3401 - val_f1_score: 0.9321 - val_accuracy: 0.9322 - val_auc: 0.9828
Epoch 413/500
50/50 [==============================] - ETA: 0s - loss: 0.0318 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996
Epoch 00413: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0318 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996 - val_loss: 0.2945 - val_f1_score: 0.9347 - val_accuracy: 0.9347 - val_auc: 0.9820
Epoch 414/500
50/50 [==============================] - ETA: 0s - loss: 0.0273 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9995
Epoch 00414: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0273 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9995 - val_loss: 0.2938 - val_f1_score: 0.9358 - val_accuracy: 0.9358 - val_auc: 0.9834
Epoch 415/500
50/50 [==============================] - ETA: 0s - loss: 0.0292 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9996
Epoch 00415: val_accuracy did not improve from 0.94031
50/50 [==============================] - 7s 139ms/step - loss: 0.0292 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9996 - val_loss: 0.2942 - val_f1_score: 0.9392 - val_accuracy: 0.9392 - val_auc: 0.9830
Epoch 416/500
50/50 [==============================] - ETA: 0s - loss: 0.0183 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999
Epoch 00416: val_accuracy improved from 0.94031 to 0.94063, saving model to /gdrive/My Drive/CG_Face_Modified.h5
50/50 [==============================] - 7s 149ms/step - loss: 0.0183 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999 - val_loss: 0.2899 - val_f1_score: 0.9406 - val_accuracy: 0.9406 - val_auc: 0.9838
Epoch 417/500
50/50 [==============================] - ETA: 0s - loss: 0.0279 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9997
Epoch 00417: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0279 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9997 - val_loss: 0.2865 - val_f1_score: 0.9400 - val_accuracy: 0.9400 - val_auc: 0.9843
Epoch 418/500
50/50 [==============================] - ETA: 0s - loss: 0.0306 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9995
Epoch 00418: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0306 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9995 - val_loss: 0.2938 - val_f1_score: 0.9372 - val_accuracy: 0.9372 - val_auc: 0.9837
Epoch 419/500
50/50 [==============================] - ETA: 0s - loss: 0.0336 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9995
Epoch 00419: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0336 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9995 - val_loss: 0.3377 - val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9828
Epoch 420/500
50/50 [==============================] - ETA: 0s - loss: 0.0452 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9993
Epoch 00420: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0452 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9993 - val_loss: 0.3542 - val_f1_score: 0.9235 - val_accuracy: 0.9236 - val_auc: 0.9838
Epoch 421/500
50/50 [==============================] - ETA: 0s - loss: 0.0302 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9995
Epoch 00421: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 141ms/step - loss: 0.0302 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9995 - val_loss: 0.2906 - val_f1_score: 0.9372 - val_accuracy: 0.9372 - val_auc: 0.9837
Epoch 422/500
50/50 [==============================] - ETA: 0s - loss: 0.0204 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998
Epoch 00422: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0204 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998 - val_loss: 0.2977 - val_f1_score: 0.9347 - val_accuracy: 0.9347 - val_auc: 0.9844
Epoch 423/500
50/50 [==============================] - ETA: 0s - loss: 0.0271 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998
Epoch 00423: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0271 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9998 - val_loss: 0.3093 - val_f1_score: 0.9377 - val_accuracy: 0.9377 - val_auc: 0.9827
Epoch 424/500
50/50 [==============================] - ETA: 0s - loss: 0.0403 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9993
Epoch 00424: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0403 - f1_score: 0.9847 - accuracy: 0.9847 - auc: 0.9993 - val_loss: 0.3072 - val_f1_score: 0.9303 - val_accuracy: 0.9303 - val_auc: 0.9831
Epoch 425/500
50/50 [==============================] - ETA: 0s - loss: 0.0188 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999
Epoch 00425: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0188 - f1_score: 0.9937 - accuracy: 0.9937 - auc: 0.9999 - val_loss: 0.3111 - val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9835
Epoch 426/500
50/50 [==============================] - ETA: 0s - loss: 0.0163 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9999
Epoch 00426: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0163 - f1_score: 0.9953 - accuracy: 0.9953 - auc: 0.9999 - val_loss: 0.3144 - val_f1_score: 0.9358 - val_accuracy: 0.9358 - val_auc: 0.9828
Epoch 427/500
50/50 [==============================] - ETA: 0s - loss: 0.0242 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997
Epoch 00427: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0242 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997 - val_loss: 0.3588 - val_f1_score: 0.9296 - val_accuracy: 0.9297 - val_auc: 0.9815
Epoch 428/500
50/50 [==============================] - ETA: 0s - loss: 0.0269 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997
Epoch 00428: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0269 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997 - val_loss: 0.3306 - val_f1_score: 0.9280 - val_accuracy: 0.9280 - val_auc: 0.9804

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Epoch 429/500
50/50 [==============================] - ETA: 0s - loss: 0.0360 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994
Epoch 00429: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0360 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9994 - val_loss: 0.3503
 - val_f1_score: 0.9298 - val_accuracy: 0.9298 - val_auc: 0.9808
Epoch 430/500
50/50 [==============================] - ETA: 0s - loss: 0.0352 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9992
Epoch 00430: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0352 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9992 - val_loss: 0.2976
 - val_f1_score: 0.9383 - val_accuracy: 0.9383 - val_auc: 0.9825
Epoch 431/500
50/50 [==============================] - ETA: 0s - loss: 0.0383 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9997
Epoch 00431: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0383 - f1_score: 0.9850 - accuracy: 0.9850 - auc: 0.9997 - val_loss: 0.4227
 - val_f1_score: 0.9133 - val_accuracy: 0.9136 - val_auc: 0.9822
Epoch 432/500
50/50 [==============================] - ETA: 0s - loss: 0.0347 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9995
Epoch 00432: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 141ms/step - loss: 0.0347 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9995 - val_loss: 0.3648
 - val_f1_score: 0.9211 - val_accuracy: 0.9212 - val_auc: 0.9819
Epoch 433/500
50/50 [==============================] - ETA: 0s - loss: 0.0284 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9995
Epoch 00433: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 143ms/step - loss: 0.0284 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9995 - val_loss: 0.3161
 - val_f1_score: 0.9384 - val_accuracy: 0.9384 - val_auc: 0.9832
Epoch 434/500
50/50 [==============================] - ETA: 0s - loss: 0.0331 - f1_score: 0.9875 - accuracy: 0.9875 - auc: 0.9996
Epoch 00434: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0331 - f1_score: 0.9875 - accuracy: 0.9875 - auc: 0.9996 - val_loss: 0.3156
 - val_f1_score: 0.9375 - val_accuracy: 0.9375 - val_auc: 0.9827
Epoch 435/500
50/50 [==============================] - ETA: 0s - loss: 0.0261 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9997
Epoch 00435: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0261 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9997 - val_loss: 0.3448
 - val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9815
Epoch 436/500
50/50 [==============================] - ETA: 0s - loss: 0.0415 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9992
Epoch 00436: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0415 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9992 - val_loss: 0.3292
 - val_f1_score: 0.9351 - val_accuracy: 0.9352 - val_auc: 0.9830
Epoch 437/500
50/50 [==============================] - ETA: 0s - loss: 0.0208 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998
Epoch 00437: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0208 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998 - val_loss: 0.3116
 - val_f1_score: 0.9347 - val_accuracy: 0.9347 - val_auc: 0.9831
Epoch 438/500
50/50 [==============================] - ETA: 0s - loss: 0.0229 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997
Epoch 00438: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0229 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9997 - val_loss: 0.3184
 - val_f1_score: 0.9300 - val_accuracy: 0.9300 - val_auc: 0.9837
Epoch 439/500
50/50 [==============================] - ETA: 0s - loss: 0.0245 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997
Epoch 00439: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0245 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9997 - val_loss: 0.3747
 - val_f1_score: 0.9276 - val_accuracy: 0.9277 - val_auc: 0.9819
Epoch 440/500
50/50 [==============================] - ETA: 0s - loss: 0.0433 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9994
Epoch 00440: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0433 - f1_score: 0.9828 - accuracy: 0.9828 - auc: 0.9994 - val_loss: 0.3229
 - val_f1_score: 0.9295 - val_accuracy: 0.9295 - val_auc: 0.9805
Epoch 441/500
50/50 [==============================] - ETA: 0s - loss: 0.0282 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9996
Epoch 00441: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0282 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9996 - val_loss: 0.2986
 - val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9826
Epoch 442/500
50/50 [==============================] - ETA: 0s - loss: 0.0265 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9997
Epoch 00442: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0265 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9997 - val_loss: 0.3163
 - val_f1_score: 0.9340 - val_accuracy: 0.9341 - val_auc: 0.9835
Epoch 443/500
50/50 [==============================] - ETA: 0s - loss: 0.0290 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9996
Epoch 00443: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0290 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9996 - val_loss: 0.3018
 - val_f1_score: 0.9378 - val_accuracy: 0.9378 - val_auc: 0.9837
Epoch 444/500
50/50 [==============================] - ETA: 0s - loss: 0.0245 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9996
Epoch 00444: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0245 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9996 - val_loss: 0.3141
 - val_f1_score: 0.9356 - val_accuracy: 0.9356 - val_auc: 0.9828
Epoch 445/500
50/50 [==============================] - ETA: 0s - loss: 0.0267 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9995
Epoch 00445: val_accuracy did not improve from 0.94063
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50/50 [==============================] - 7s 140ms/step - loss: 0.0267 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9995 - val_loss: 0.3148 - val_f1_score: 0.9337 - val_accuracy: 0.9337 - val_auc: 0.9833
Epoch 446/500
50/50 [==============================] - ETA: 0s - loss: 0.0294 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9997
Epoch 00446: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0294 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9997 - val_loss: 0.3431 - val_f1_score: 0.9353 - val_accuracy: 0.9353 - val_auc: 0.9825
Epoch 447/500
50/50 [==============================] - ETA: 0s - loss: 0.0309 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997
Epoch 00447: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0309 - f1_score: 0.9887 - accuracy: 0.9887 - auc: 0.9997 - val_loss: 0.3177 - val_f1_score: 0.9345 - val_accuracy: 0.9345 - val_auc: 0.9819
Epoch 448/500
50/50 [==============================] - ETA: 0s - loss: 0.0296 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996
Epoch 00448: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0296 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9996 - val_loss: 0.2850 - val_f1_score: 0.9391 - val_accuracy: 0.9391 - val_auc: 0.9830
Epoch 449/500
50/50 [==============================] - ETA: 0s - loss: 0.0207 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998
Epoch 00449: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0207 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998 - val_loss: 0.3547 - val_f1_score: 0.9278 - val_accuracy: 0.9278 - val_auc: 0.9813
Epoch 450/500
50/50 [==============================] - ETA: 0s - loss: 0.0240 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997
Epoch 00450: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0240 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997 - val_loss: 0.3368 - val_f1_score: 0.9330 - val_accuracy: 0.9330 - val_auc: 0.9819
Epoch 451/500
50/50 [==============================] - ETA: 0s - loss: 0.0242 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9994
Epoch 00451: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0242 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9994 - val_loss: 0.3658 - val_f1_score: 0.9290 - val_accuracy: 0.9291 - val_auc: 0.9831
Epoch 452/500
50/50 [==============================] - ETA: 0s - loss: 0.0326 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9993
Epoch 00452: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0326 - f1_score: 0.9891 - accuracy: 0.9891 - auc: 0.9993 - val_loss: 0.3293 - val_f1_score: 0.9308 - val_accuracy: 0.9308 - val_auc: 0.9820
Epoch 453/500
50/50 [==============================] - ETA: 0s - loss: 0.0329 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996
Epoch 00453: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0329 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996 - val_loss: 0.3077 - val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9822
Epoch 454/500
50/50 [==============================] - ETA: 0s - loss: 0.0356 - f1_score: 0.9875 - accuracy: 0.9875 - auc: 0.9994
Epoch 00454: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0356 - f1_score: 0.9875 - accuracy: 0.9875 - auc: 0.9994 - val_loss: 0.2956 - val_f1_score: 0.9355 - val_accuracy: 0.9355 - val_auc: 0.9828
Epoch 455/500
50/50 [==============================] - ETA: 0s - loss: 0.0208 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00455: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0208 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.3329 - val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9828
Epoch 456/500
50/50 [==============================] - ETA: 0s - loss: 0.0322 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995
Epoch 00456: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0322 - f1_score: 0.9869 - accuracy: 0.9869 - auc: 0.9995 - val_loss: 0.3140 - val_f1_score: 0.9284 - val_accuracy: 0.9284 - val_auc: 0.9822
Epoch 457/500
50/50 [==============================] - ETA: 0s - loss: 0.0227 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9996
Epoch 00457: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0227 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9996 - val_loss: 0.3232 - val_f1_score: 0.9347 - val_accuracy: 0.9347 - val_auc: 0.9827
Epoch 458/500
50/50 [==============================] - ETA: 0s - loss: 0.0257 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9996
Epoch 00458: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0257 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9996 - val_loss: 0.3179 - val_f1_score: 0.9355 - val_accuracy: 0.9355 - val_auc: 0.9823
Epoch 459/500
50/50 [==============================] - ETA: 0s - loss: 0.0219 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9996
Epoch 00459: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0219 - f1_score: 0.9925 - accuracy: 0.9925 - auc: 0.9996 - val_loss: 0.3419 - val_f1_score: 0.9271 - val_accuracy: 0.9272 - val_auc: 0.9828
Epoch 460/500
50/50 [==============================] - ETA: 0s - loss: 0.0137 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999
Epoch 00460: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0137 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9999 - val_loss: 0.3108 - val_f1_score: 0.9392 - val_accuracy: 0.9392 - val_auc: 0.9835
Epoch 461/500
50/50 [==============================] - ETA: 0s - loss: 0.0173 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998
Epoch 00461: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0173 - f1_score: 0.9947 - accuracy: 0.9947 - auc: 0.9998 - val_loss: 0.3304 - val_f1_score: 0.9331 - val_accuracy: 0.9331 - val_auc: 0.9823

50/50 [==============================] - ETA: 0s - loss: 0.0218 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9996
Epoch 00462: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0218 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9996 - val_loss: 0.3775 - val_f1_score: 0.9244 - val_accuracy: 0.9245 - val_auc: 0.9829
Epoch 463/500
50/50 [==============================] - ETA: 0s - loss: 0.0237 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9997
Epoch 00463: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0237 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9997 - val_loss: 0.3390 - val_f1_score: 0.9292 - val_accuracy: 0.9292 - val_auc: 0.9805
Epoch 464/500
50/50 [==============================] - ETA: 0s - loss: 0.0225 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998
Epoch 00464: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 142ms/step - loss: 0.0225 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998 - val_loss: 0.3400 - val_f1_score: 0.9315 - val_accuracy: 0.9316 - val_auc: 0.9842
Epoch 465/500
50/50 [==============================] - ETA: 0s - loss: 0.0196 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9998
Epoch 00465: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0196 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9998 - val_loss: 0.3307 - val_f1_score: 0.9341 - val_accuracy: 0.9341 - val_auc: 0.9822
Epoch 466/500
50/50 [==============================] - ETA: 0s - loss: 0.0233 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9995
Epoch 00466: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0233 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9995 - val_loss: 0.3153 - val_f1_score: 0.9362 - val_accuracy: 0.9362 - val_auc: 0.9837
Epoch 467/500
50/50 [==============================] - ETA: 0s - loss: 0.0199 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999
Epoch 00467: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0199 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9999 - val_loss: 0.3858 - val_f1_score: 0.9258 - val_accuracy: 0.9259 - val_auc: 0.9830
Epoch 468/500
50/50 [==============================] - ETA: 0s - loss: 0.0357 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9992
Epoch 00468: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0357 - f1_score: 0.9866 - accuracy: 0.9866 - auc: 0.9992 - val_loss: 0.4886 - val_f1_score: 0.9127 - val_accuracy: 0.9130 - val_auc: 0.9797
Epoch 469/500
50/50 [==============================] - ETA: 0s - loss: 0.0497 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9991
Epoch 00469: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0497 - f1_score: 0.9825 - accuracy: 0.9825 - auc: 0.9991 - val_loss: 0.3214 - val_f1_score: 0.9325 - val_accuracy: 0.9325 - val_auc: 0.9818
Epoch 470/500
50/50 [==============================] - ETA: 0s - loss: 0.0358 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9992
Epoch 00470: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0358 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9992 - val_loss: 0.3250 - val_f1_score: 0.9258 - val_accuracy: 0.9258 - val_auc: 0.9801
Epoch 471/500
50/50 [==============================] - ETA: 0s - loss: 0.0407 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9994
Epoch 00471: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0407 - f1_score: 0.9834 - accuracy: 0.9834 - auc: 0.9994 - val_loss: 0.3400 - val_f1_score: 0.9357 - val_accuracy: 0.9358 - val_auc: 0.9841
Epoch 472/500
50/50 [==============================] - ETA: 0s - loss: 0.0279 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9996
Epoch 00472: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0279 - f1_score: 0.9903 - accuracy: 0.9903 - auc: 0.9996 - val_loss: 0.3155 - val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9829
Epoch 473/500
50/50 [==============================] - ETA: 0s - loss: 0.0176 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998
Epoch 00473: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0176 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998 - val_loss: 0.3020 - val_f1_score: 0.9369 - val_accuracy: 0.9369 - val_auc: 0.9844
Epoch 474/500
50/50 [==============================] - ETA: 0s - loss: 0.0233 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997
Epoch 00474: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0233 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9997 - val_loss: 0.2940 - val_f1_score: 0.9380 - val_accuracy: 0.9380 - val_auc: 0.9845
Epoch 475/500
50/50 [==============================] - ETA: 0s - loss: 0.0245 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9996
Epoch 00475: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0245 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9996 - val_loss: 0.3079 - val_f1_score: 0.9342 - val_accuracy: 0.9342 - val_auc: 0.9842
Epoch 476/500
50/50 [==============================] - ETA: 0s - loss: 0.0190 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9997
Epoch 00476: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 141ms/step - loss: 0.0190 - f1_score: 0.9934 - accuracy: 0.9934 - auc: 0.9997 - val_loss: 0.3441 - val_f1_score: 0.9336 - val_accuracy: 0.9336 - val_auc: 0.9832
Epoch 477/500
50/50 [==============================] - ETA: 0s - loss: 0.0197 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998
Epoch 00477: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 143ms/step - loss: 0.0197 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9998 - val_loss: 0.3175 - val_f1_score: 0.9362 - val_accuracy: 0.9362 - val_auc: 0.9833
Epoch 478/500
50/50 [==============================] - ETA: 0s - loss: 0.0225 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997
Epoch 00478: val_accuracy did not improve from 0.94063

50/50 [==============================] - 7s 140ms/step - loss: 0.0225 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997 - val_loss: 0.3030 - val_f1_score: 0.9373 - val_accuracy: 0.9373 - val_auc: 0.9824
Epoch 479/500
50/50 [==============================] - ETA: 0s - loss: 0.0252 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998
Epoch 00479: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0252 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9998 - val_loss: 0.3224 - val_f1_score: 0.9323 - val_accuracy: 0.9323 - val_auc: 0.9816
Epoch 480/500
50/50 [==============================] - ETA: 0s - loss: 0.0181 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9999
Epoch 00480: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0181 - f1_score: 0.9916 - accuracy: 0.9916 - auc: 0.9999 - val_loss: 0.3547 - val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9822
Epoch 481/500
50/50 [==============================] - ETA: 0s - loss: 0.0244 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997
Epoch 00481: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0244 - f1_score: 0.9919 - accuracy: 0.9919 - auc: 0.9997 - val_loss: 0.3091 - val_f1_score: 0.9366 - val_accuracy: 0.9366 - val_auc: 0.9836
Epoch 482/500
50/50 [==============================] - ETA: 0s - loss: 0.0289 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9994
Epoch 00482: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0289 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9994 - val_loss: 0.3955 - val_f1_score: 0.9250 - val_accuracy: 0.9252 - val_auc: 0.9834
Epoch 483/500
50/50 [==============================] - ETA: 0s - loss: 0.0204 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999
Epoch 00483: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0204 - f1_score: 0.9922 - accuracy: 0.9922 - auc: 0.9999 - val_loss: 0.3049 - val_f1_score: 0.9369 - val_accuracy: 0.9369 - val_auc: 0.9836
Epoch 484/500
50/50 [==============================] - ETA: 0s - loss: 0.0307 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996
Epoch 00484: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0307 - f1_score: 0.9894 - accuracy: 0.9894 - auc: 0.9996 - val_loss: 0.3202 - val_f1_score: 0.9350 - val_accuracy: 0.9350 - val_auc: 0.9822
Epoch 485/500
50/50 [==============================] - ETA: 0s - loss: 0.0268 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995
Epoch 00485: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0268 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9995 - val_loss: 0.3155 - val_f1_score: 0.9381 - val_accuracy: 0.9381 - val_auc: 0.9816
Epoch 486/500
50/50 [==============================] - ETA: 0s - loss: 0.0292 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9996
Epoch 00486: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0292 - f1_score: 0.9897 - accuracy: 0.9897 - auc: 0.9996 - val_loss: 0.3847 - val_f1_score: 0.9176 - val_accuracy: 0.9178 - val_auc: 0.9834
Epoch 487/500
50/50 [==============================] - ETA: 0s - loss: 0.0340 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9995
Epoch 00487: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0340 - f1_score: 0.9881 - accuracy: 0.9881 - auc: 0.9995 - val_loss: 0.3508 - val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9845
Epoch 488/500
50/50 [==============================] - ETA: 0s - loss: 0.0187 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9996
Epoch 00488: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0187 - f1_score: 0.9928 - accuracy: 0.9928 - auc: 0.9996 - val_loss: 0.3373 - val_f1_score: 0.9332 - val_accuracy: 0.9333 - val_auc: 0.9838
Epoch 489/500
50/50 [==============================] - ETA: 0s - loss: 0.0194 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999
Epoch 00489: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0194 - f1_score: 0.9912 - accuracy: 0.9912 - auc: 0.9999 - val_loss: 0.3274 - val_f1_score: 0.9375 - val_accuracy: 0.9375 - val_auc: 0.9842
Epoch 490/500
50/50 [==============================] - ETA: 0s - loss: 0.0337 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9998
Epoch 00490: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0337 - f1_score: 0.9856 - accuracy: 0.9856 - auc: 0.9998 - val_loss: 0.4437 - val_f1_score: 0.9260 - val_accuracy: 0.9261 - val_auc: 0.9806
Epoch 491/500
50/50 [==============================] - ETA: 0s - loss: 0.0345 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9994
Epoch 00491: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0345 - f1_score: 0.9872 - accuracy: 0.9872 - auc: 0.9994 - val_loss: 0.3591 - val_f1_score: 0.9307 - val_accuracy: 0.9308 - val_auc: 0.9811
Epoch 492/500
50/50 [==============================] - ETA: 0s - loss: 0.0229 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998
Epoch 00492: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0229 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9998 - val_loss: 0.3594 - val_f1_score: 0.9326 - val_accuracy: 0.9327 - val_auc: 0.9812
Epoch 493/500
50/50 [==============================] - ETA: 0s - loss: 0.0256 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997
Epoch 00493: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0256 - f1_score: 0.9906 - accuracy: 0.9906 - auc: 0.9997 - val_loss: 0.3706 - val_f1_score: 0.9291 - val_accuracy: 0.9292 - val_auc: 0.9849
Epoch 494/500
50/50 [==============================] - ETA: 0s - loss: 0.0287 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9997
Epoch 00494: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 140ms/step - loss: 0.0287 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9997 - val_loss: 0.3176 - val_f1_score: 0.9373 - val_accuracy: 0.9373 - val_auc: 0.9840

Epoch 495/500
50/50 [==============================] - ETA: 0s - loss: 0.0329 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996
Epoch 00495: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0329 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996 - val_loss: 0.3220
- val_f1_score: 0.9359 - val_accuracy: 0.9359 - val_auc: 0.9830
Epoch 496/500
50/50 [==============================] - ETA: 0s - loss: 0.0237 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997
Epoch 00496: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0237 - f1_score: 0.9909 - accuracy: 0.9909 - auc: 0.9997 - val_loss: 0.3181
- val_f1_score: 0.9334 - val_accuracy: 0.9334 - val_auc: 0.9827
Epoch 497/500
50/50 [==============================] - ETA: 0s - loss: 0.0277 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996
Epoch 00497: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0277 - f1_score: 0.9878 - accuracy: 0.9878 - auc: 0.9996 - val_loss: 0.2778
- val_f1_score: 0.9377 - val_accuracy: 0.9377 - val_auc: 0.9840
Epoch 498/500
50/50 [==============================] - ETA: 0s - loss: 0.0278 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9997
Epoch 00498: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0278 - f1_score: 0.9884 - accuracy: 0.9884 - auc: 0.9997 - val_loss: 0.3356
- val_f1_score: 0.9257 - val_accuracy: 0.9258 - val_auc: 0.9844
Epoch 499/500
50/50 [==============================] - ETA: 0s - loss: 0.0182 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999
Epoch 00499: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0182 - f1_score: 0.9941 - accuracy: 0.9941 - auc: 0.9999 - val_loss: 0.3007
- val_f1_score: 0.9364 - val_accuracy: 0.9364 - val_auc: 0.9838
Epoch 500/500
50/50 [==============================] - ETA: 0s - loss: 0.0160 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998
Epoch 00500: val_accuracy did not improve from 0.94063
50/50 [==============================] - 7s 139ms/step - loss: 0.0160 - f1_score: 0.9931 - accuracy: 0.9931 - auc: 0.9998 - val_loss: 0.3368
- val_f1_score: 0.9344 - val_accuracy: 0.9344 - val_auc: 0.9831

Out[0]:

<tensorflow.python.keras.callbacks.History at 0x7f799e34a1d0>
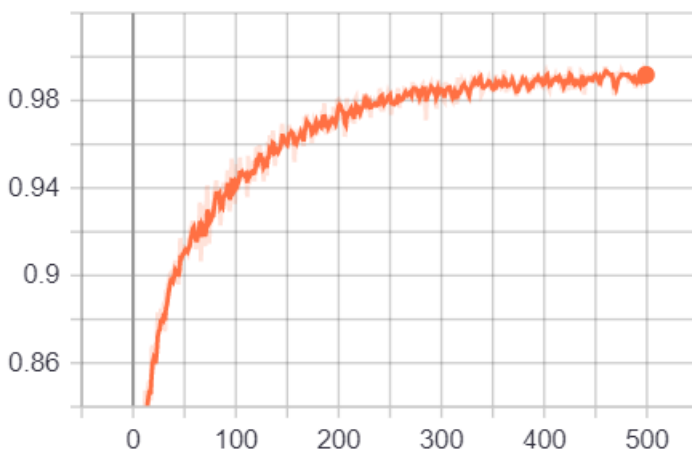
18. Visualizing the result from Upgraded CG_Face.

18.1 Train accuracy

In [36]:

Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\train_accuracy.PNG")

Out[36]:

18.2 Validation accuracy

In [37]:

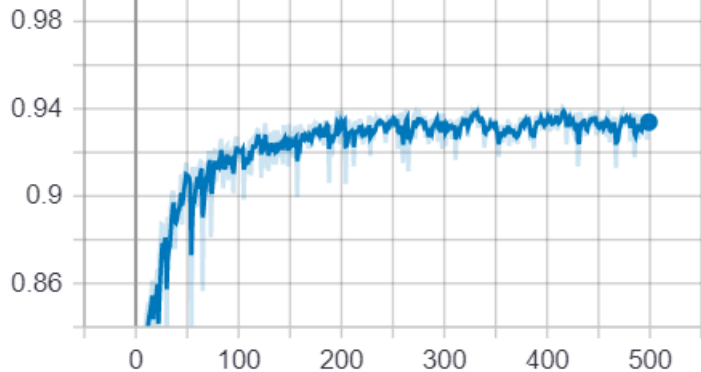Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cv_accuracy.PNG")

Out[37]:

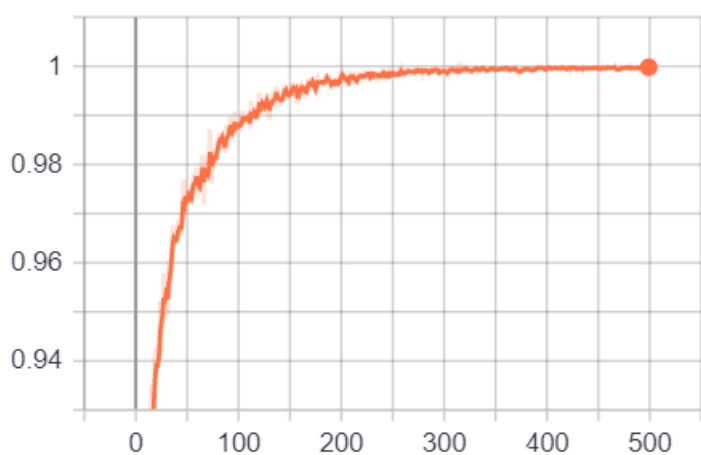### 18.3 Train AUC

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\trian_auc.PNG")
```

epoch_auc

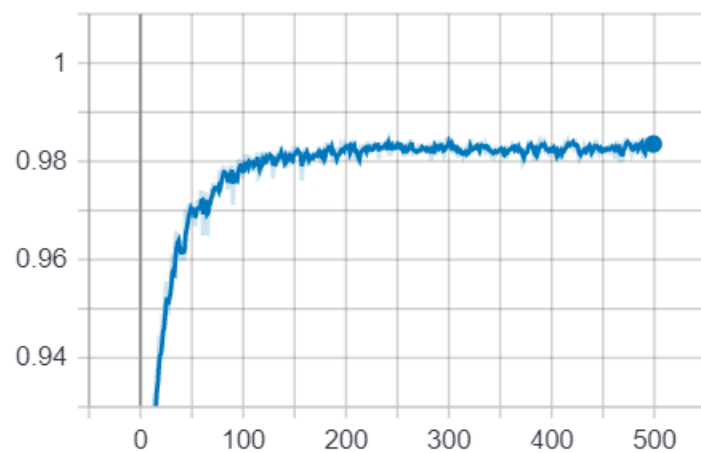### 18.4 Validation AUC

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cv_auc.PNG")
```

epoch_auc

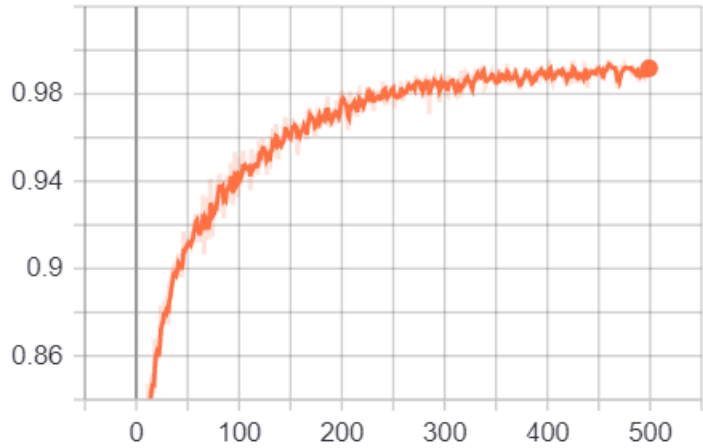### 18.5 Train f1

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\trian_f1.PNG")
```

epoch_f1_score

18.6 Validation f1
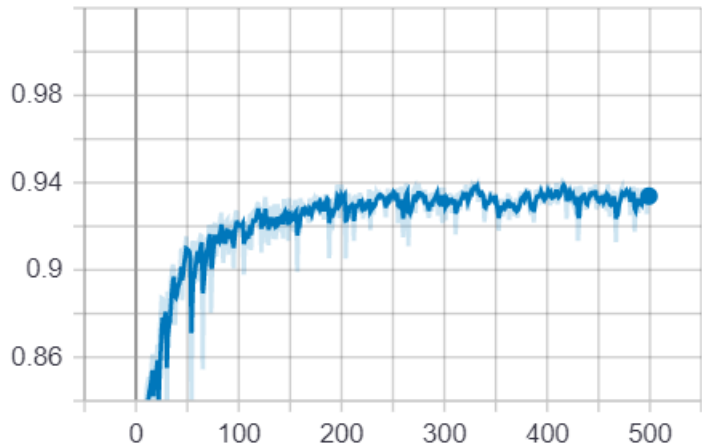
In [43]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cv_f1.PNG")
```
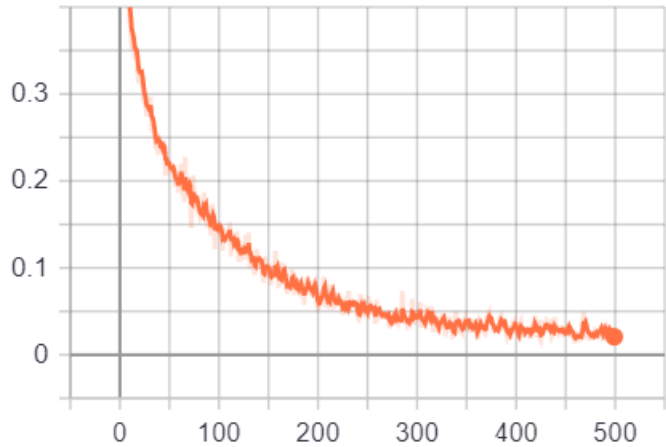
Out[43]:

epoch_f1_score

18.7 Train loss

In [44]:

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\trian_loss.PNG")
```
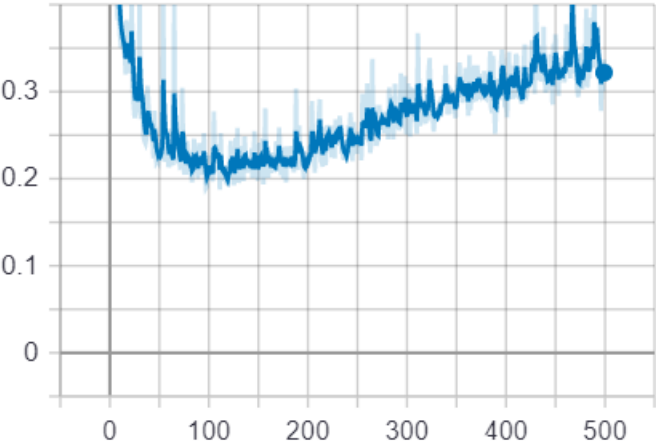
Out[44]:

epoch_loss

18.8 Validation loss

```
Image(filename="C:\\Users\\my pc\\Pictures\\Screenshots\\cv_loss.PNG")
```

Out[45]:

epoch_loss

19. Evaluating the results

In [0]:

```
model.load_weights('/gdrive/My Drive/CG_Face_Modified.h5')
```

In [0]:

```
result = model.evaluate(X_test , y_test )
dict(zip(model.metrics_names, result))
```
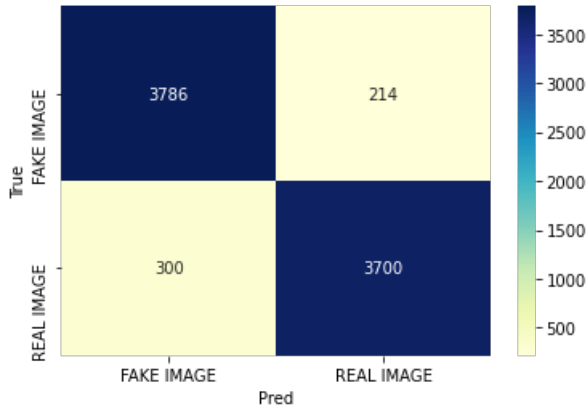
```
250/250 [==============================] - 4s 18ms/step - loss: 0.3037 - f1_score: 0.9357 - accuracy: 0.9358 - auc: 0.9826
```

Out[0]:

```
{'accuracy': 0.9357500076293945,
 'auc': 0.98264588925550659,
 'f1_score': 0.9357426166534424,
 'loss': 0.3036733567714691}
```

In [0]:

```
df = pd.DataFrame(confusion_matrix(y_test , model.predict(X_test)))
ax = sns.heatmap(df , annot=True , fmt="d" , cmap="YlGnBu")
```


20. Visualizing the final results

```python
#http://zetcode.com/python/prettytable/
from prettytable import PrettyTable
x = PrettyTable()
x.field_names = ["Model name", "Accuracy", "AUC" , "F1_Score", "Loss"]
x.add_row(["vgg_16"     , 0.9271, 0.9773 , 0.9271, 0.4159])
x.add_row(["CG_Face"    , 0.9112, 0.9707 , 0.9112, 0.2859])
x.add_row(["GRAM CG_Face", 0.9357, 0.9826 , 0.9357, 0.3036])

print(x)
```

```
+--------------+----------+--------+----------+--------+
|  Model name  | Accuracy |  AUC   | F1_Score |  Loss  |
+--------------+----------+--------+----------+--------+
|    vgg_16    |  0.9271  | 0.9773 |  0.9271  | 0.4159 |
|   CG_Face    |  0.9112  | 0.9707 |  0.9112  | 0.2859 |
| GRAM CG_Face |  0.9357  | 0.9826 |  0.9357  | 0.3036 |
+--------------+----------+--------+----------+--------+
```

Final Observation:

- The first key take away from this experiment is, there is not always complex and higher layer cnn works better since we are getting good result with our CG_Face model which is less complex and have the low no. of cnn layers in comparision with the vgg16. CG_Face face also working with low resolutions because for models we took 64 input shape
- From the experiment with the gram block we got to know that for the facial image classification problem texture feature is actually important because it is now proven after the experiment that it enhences the power of a CNN model to an extent