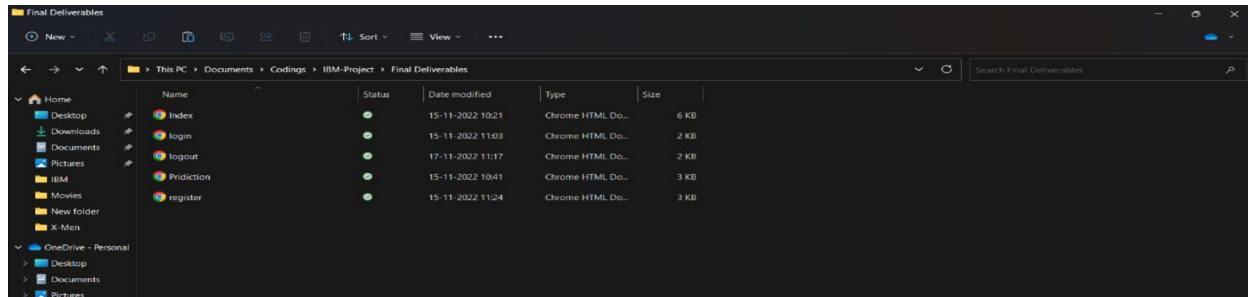


Application Building

Building HTML pages

This section deals with the 5 different html pages to navigate as shown below



Building python code

```
diabetic-retinopathy-detection-and-classification (2).ipynb
File Edit View Insert Runtime Tools Help Last saved at 8:19 PM
+ Code + Text
Connect Editing
99, 299]
input/diabetic-retinopathy-level-detection/preprocessed dataset/preprocessed dataset/training"
input/diabetic-retinopathy-level-detection/preprocessed dataset/preprocessed dataset/testing"
./input/diabetic-retinopathy-level-detection/preprocessed dataset/preprocessed dataset/training"
./input/diabetic-retinopathy-level-detection/preprocessed dataset/preprocessed dataset/testing"

[ ] from tensorflow.keras.layers import Dense, Flatten, Input
from tensorflow.keras.models import Model, load_model
from tensorflow.keras.preprocessing import image
from tensorflow.keras.preprocessing.image import ImageDataGenerator, load_img
from tensorflow.keras.applications.xception import Xception, preprocess_input
from glob import glob
import numpy as np
import matplotlib.pyplot as plt
import h5py

[ ] train_datagen = ImageDataGenerator(rescale = 1./255, shear_range = 0.2, zoom_range = 0.2, horizontal_
test_datagen = ImageDataGenerator(rescale = 1./255)
type(train_datagen)

as.preprocessing.image.ImageDataGenerator

[ ] ining_set = train_datagen.flow_from_directory(trainPath, target_size = (299,299),batch_size = 32, clas
t_set = test_datagen.flow_from_directory(testPath, target_size = (299,299),batch_size = 32, class_mode

Found 3662 images belonging to 5 classes
Found 734 images belonging to 5 classes.

[ ] #xception = Xception(input_shape = imageSize + [3], weights = 'imagenet', include_top = False)
#xception = keras.models.load_model('../input/pretrained-model/xception_weights_tf_dim_ordering_tf_ker
#xception = load_model('../input/xceptionmodel/xception_weights_tf_dim_ordering_tf_kernels_notop.
xception = load_model('../input/xceptionsavedmodel3/assets')

2022-11-03 02:28:24.711877: I tensorflow
2022-11-03 02:28:25.940459: E tensorflow

[ ] #don't train existing weights
for layer in xception.layers:
    layer.trainable = False

[ ] #four layers - you can add more if you want
x = Flatten()(xception.output)

[ ] prediction = Dense(5, activation = 'softmax')(x)

[ ] #create a model object
model = Model(inputs = xception.input, outputs = prediction)

[ ] #view the structure of the model
model.summary()

Model: "model"

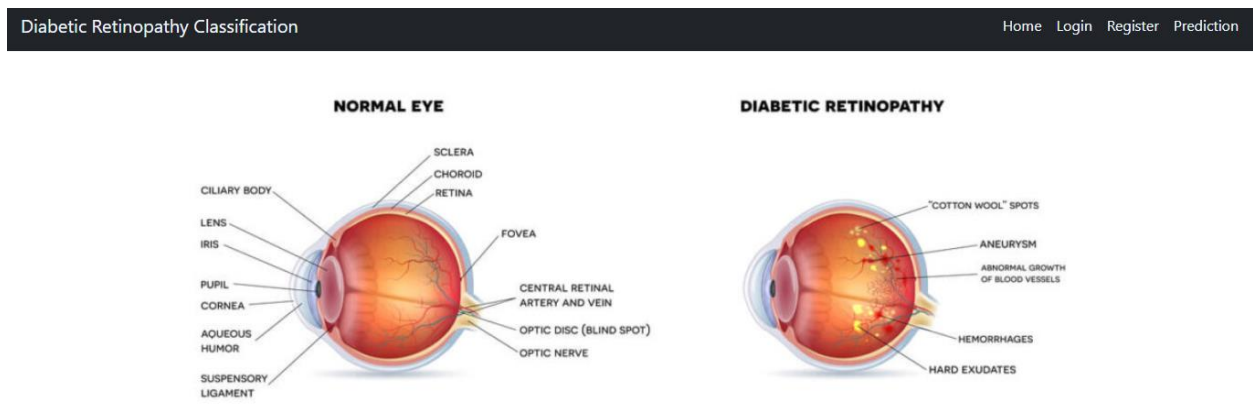
Layer (type)                                     Output S
=====
input_1 (InputLayer)                             [(None,
block1_conv1 (Conv2D)                             (None, 1
block1_conv1_bn (BatchNormaliza (None, 1
```

Run the application

Below is the screenshot of the application that has run on the localhost in browser

```
Serving Flask app "app" (lazy loading)
Environment: production
WARNING: This is a development server. Do not use it in a
Use a production WSGI server instead.
Debug mode: off
Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

a) index.html



b) login.html


The screenshot shows the 'DR Register' application login interface. The header bar is dark grey with the title 'DR Register' on the left and navigation links 'Home', 'Login', and 'Register' on the right. The main content area features a large, dark blue circular icon with a white silhouette of a person's head and shoulders. Below the icon are two input fields: 'Enter Registered Mail ID' and 'Enter Password'. At the bottom of the form is a dark grey button labeled 'Login'.

c) register.html

Register page involves in user registration with name, mail id and password field.

DR Register

Home Login Register



Login

Already Registered: Login Here

d) prediction.html

The prediction percentage shows the type of disease (i.e.) if the percentage shows 75% then the patient is infected with severe NPDR type.

Diabetic Retinopathy Classification

Home Logout


Upload Image

Choose File


No file chosen

Predict

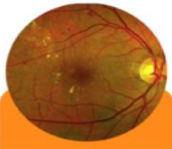
25%




No disease visible



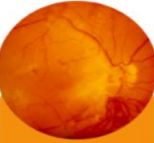
Mild nonproliferative diabetic retinopathy



Moderate NPDR



Severe NPDR



PDR

e) logout.html

Diabetic Retinopathy

Home Login Register

Successfully Logged Out!

Login for more Information