import os

import cv2

import numpy as np

dir\_name = "/content/drive/MyDrive/dataset/faces"

y = []

x = []

target\_names = []

person\_id = 0

h = w = 300

n\_samples = 0

class\_names = []

for person\_name in os.listdir(dir\_name):

    dir\_path = os.path.join(dir\_name, person\_name)

    class\_names.append(person\_name)

    if os.path.exists(dir\_path):

        for image\_name in os.listdir(dir\_path):

            # formulate the image path

            image\_path = os.path.join(dir\_path, image\_name)

            # Read the input image

            img = cv2.imread(image\_path)

            # Convert into grayscale

            gray = cv2.cvtColor(img, cv2.COLOR\_BGR2GRAY)

            # resize image to 300\*300 dimension

            resized\_image = cv2.resize(gray, (h, w))

            # convert matrix to vector

            v = resized\_image.flatten()

            x.append(v)

            # increase the number of samples

            n\_samples += 1

            # Adding the categorical label

            y.append(person\_id)

            # adding the person name

            target\_names.append(person\_name)

    # Increase the person id by 1

    person\_id += 1

# transform List to numpy array

y = np.array(y)

x = np.array(x)

target\_names = np.array(target\_names)

n\_features = x.shape[1]

print(y.shape, x.shape, target\_names.shape)

print("Number of samples:", n\_samples)

n\_classes = target\_names.shape[0]

print("Total dataste size:")

print("n\_samples: %d" % n\_samples)

print("n\_features: %d" % n\_features)

print("n\_classes: %d" % n\_classes)