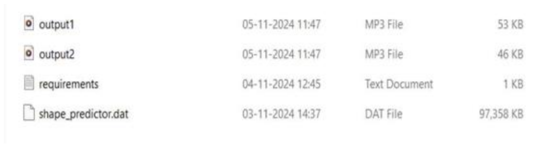
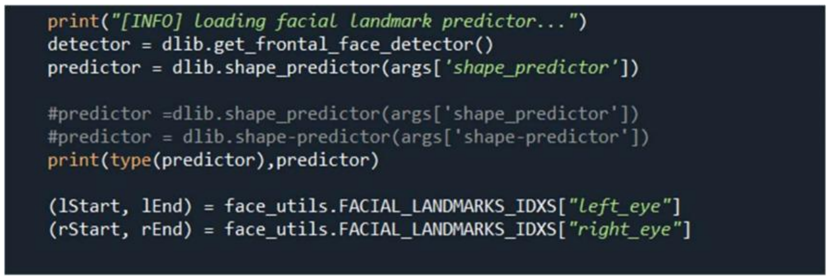
Data Collection and Preprocessing Phase

Section	Description
Data Preprocessing Code Sc reenshots	
Data Overview	 output1 05-11-2024 11:47 MP3 File 53 KB output2 05-11-2024 11:47 MP3 File 46 KB requirements 04-11-2024 12:45 Text Document 1 KB shape_predictor.dat 03-11-2024 14:37 DAT File 97,358 KB

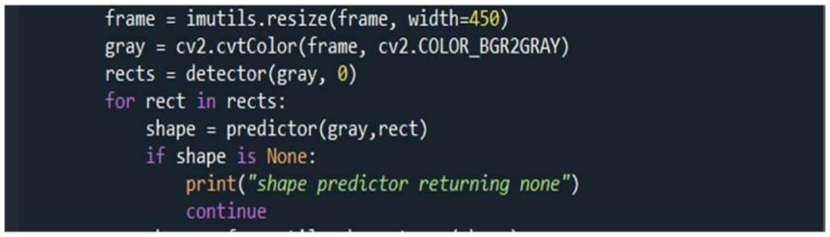
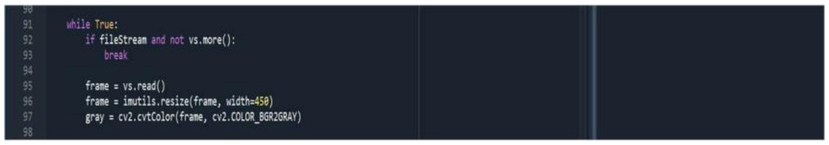
Loading Data	

```
print("[INFO] loading facial landmark predictor...")
detector = dlib.get_frontal_face_detector()
predictor = dlib.shape_predictor(args['shape_predictor'])

#predictor =dlib.shape_predictor(args['shape_predictor'])
#predictor = dlib.shape-predictor(args['shape-predictor'])
print(type(predictor),predictor)

(lStart, lEnd) = face_utils.FACIAL_LANDMARKS_IDXS["left_eye"]
(rStart, rEnd) = face_utils.FACIAL_LANDMARKS_IDXS["right_eye"]
```

Date	15 September 2024
Team ID	739698
Project Title	Strain analysis based on eye blinking
Maximum Marks	6 Marks

Preprocessing Template

The images will be preprocessed by resizing, normalizing, augmenting, denoising, adjusting contrast, detecting edges, converting color space, cropping, batch normalizing, and whitening data. These steps will enhance data quality, promote model generalization, and improve convergence during neural network training, ensuring robust and efficient performance across various computer vision tasks.

Resizing	
Color Space Conversion	

```python
        frame = imutils.resize(frame, width=450)
        gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
        rects = detector(gray, 0)
        for rect in rects:
            shape = predictor(gray,rect)
            if shape is None:
                print("shape predictor returning none")
                continue
```

```python
    while True:
        if fileStream and not vs.more():
            break

        frame = vs.read()
        frame = imutils.resize(frame, width=450)
        gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
```