

## Data Collection and Preprocessing Phase

Date	21 October 2024
Team ID	739879
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.

Section	Description
<b>Data Preprocessing Code Screenshots</b>	
Data Overview	<div> <div>output1</div> <div>05-11-2024 11:47</div> <div>MP3 File</div> <div>53 KB</div> </div> <div> <div>output2</div> <div>05-11-2024 11:47</div> <div>MP3 File</div> <div>46 KB</div> </div> <div> <div>requirements</div> <div>04-11-2024 12:45</div> <div>Text Document</div> <div>1 KB</div> </div> <div> <div>shape_predictor.dat</div> <div>03-11-2024 14:37</div> <div>DAT File</div> <div>97,358 KB</div> </div>
Loading Data	<pre> 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"] </pre>

Resizing	<pre>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</pre>
Color Space Conversion	<pre>90 91 while True: 92     if fileStream and not vs.more(): 93         break 94 95     frame = vs.read() 96     frame = imutils.resize(frame, width=450) 97     gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY) 98</pre>