

Data Collection and Preprocessing Phase

| Section | Description |
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| Data Preprocessing Code Screenshots | |
| Data Overview |  |
| 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> |

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| Date | 15 September 2024 |
| Team ID | 739753 |
| 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.

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| 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> |