

APPENDIX

IMPORT MODULE

```
1 import cv2
```

INPUT DATASET AND ALGORITHM

```
1 faceCascade  
  cv2.CascadeClassifier("haarcascade_frontalface_default.xml")  
2 eyeCascade = cv2.CascadeClassifier("haarcascade_eye.xml")
```

OPEN LAPTOP WEBCAM CAMERA

```
1 video_capture = cv2.VideoCapture(0)
```

CREATING VARIABLES USING GLASSES

```
1 menggunakankacamata = False
```

REPEAT EVERY FRAME IN VIDEO AND TURN TO GRAYSCALE

```
1 while True:  
2   ret, frame = video_capture.read()  
3   gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)  
4   wajah = faceCascade.detectMultiScale(gray, 1.1, 5)  
5   roi_gray = gray
```

FACE DETECTION PROCESS

```
1 for(x, y, w, h) in wajah:  
2   roi_gray = gray[y:y+h, x:x+w]  
3   roi_color = frame[y:y+h, x:x+w]  
4   if menggunakankacamata:  
5     cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 255, 0), 3)  
6     cv2.putText(frame, 'Glasses On', (x, y), cv2.FONT_HERSHEY_SIMPLEX, 1.5,  
7       (0, 255, 0), 3)  
8   else:  
9     cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 0, 255), 3)  
10    cv2.putText(frame, 'Glasses Off', (x, y), cv2.FONT_HERSHEY_SIMPLEX,  
11      1.5, (0, 0, 255), 3)
```

EYE DETECTION PROCESS

```
1 mata = eyeCascade.detectMultiScale(roi_gray, 1.18, 35,)  
2 roi_gray = gray  
3 for (sx, sy, sw, sh) in mata:  
4   cv2.rectangle(roi_color, (sx, sy), (sx+sw, sy+sh), (255, 0, 0), 2)  
5   cv2.putText(frame, 'Eyes', (x + sx, y + sy), 1, 1, (0, 255, 0), 2)  
6   if len(mata)>0:  
7     menggunakankacamata = False  
8   else:  
9     menggunakankacamata = True
```

COUNTING THE NUMBER OF SOMEONE'S FACES AND EYES IN VIDEO

```
1 cv2.putText(frame, 'Number Of Faces : ' + str(len(wajah)),(30, 30),  
cv2.FONT_HERSHEY_SIMPLEX, 1, (255,0,0),3)  
2 cv2.putText(frame, 'Number Of Eyes : ' + str(len(mata)), (30, 60),  
cv2.FONT_HERSHEY_SIMPLEX, 1, (255, 0, 0),3)  
3 cv2.imshow('Video', frame)
```

THE PROCESS OF CLOSING THE LAPTOP WEBCAM

```
1 if cv2.waitKey(1) & 0xFF == ord('s'):  
2 break
```

GIVING ACCESS TO CV2 ON THE LAPTOP'S WEBCAM CAMERA

```
1 video_capture.release()  
2 cv2.destroyAllWindows()
```





1.21% PLAGIARISM
APPROXIMATELY

Report #14318925

INTRODUCTION 1.1. Background In this day and age, which is increasingly advanced and rapidly growing, many systems are developing to detect goods used by someone with the aim of facilitating community activities. In some places a person is required not to use glasses for certain activities, such as making transactions at an ATM machine. With the development of technology, this can be overcome by using image processing which can determine whether a person is wearing glasses or not. The problem in this case is detecting someone who is wearing glasses or is not wearing glasses. The haarcascade classifier algorithm is one of the algorithms that can detect a human face, the algorithm is able to detect it quickly and in real time. The haarcascade classifier algorithm has the advantage of fast computation because it only depends on the number of pixels of a photo or video. The haarcascade classifier algorithm can be used to process video directly using haarcascade frontalface to detect faces and haarcascade eyes to detect eyes which