



Drowsy Driving Detection

4th year CSE: Image processing course

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Introduction

Drowsy driving is a major problem in the world. The risk, danger, and often tragic results of drowsy driving are alarming. Drowsy driving is the dangerous combination of driving and sleepiness or fatigue. This usually happens when a driver has not slept enough, but it can also happen because of untreated sleep disorders, medications, drinking alcohol, or shift work.

No one knows the exact moment when sleep comes over their body. Falling asleep at the wheel is clearly dangerous but being sleepy affects your ability to drive safely even if you don't fall asleep. Drowsiness—

- Makes you less able to pay attention to the road.
- Slows reaction time if you have to brake or steer suddenly.
- Affects your ability to make good decisions.

Did you know?

The Governors Highway Safety Association (in USA) issued a report in August 2016 concluding that there were 91,000 police-reported crashes that involved drowsy drivers. Those crashes led to about 50,000 people being injured and an estimated annual societal cost of fatigue-related fatal and injury crashes was \$109 billion. This figure does not include property damage.

Project Description

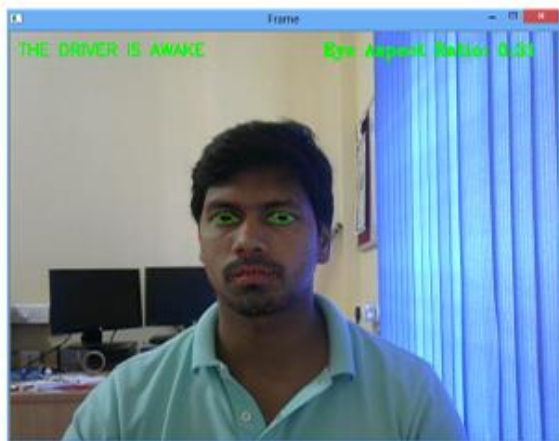
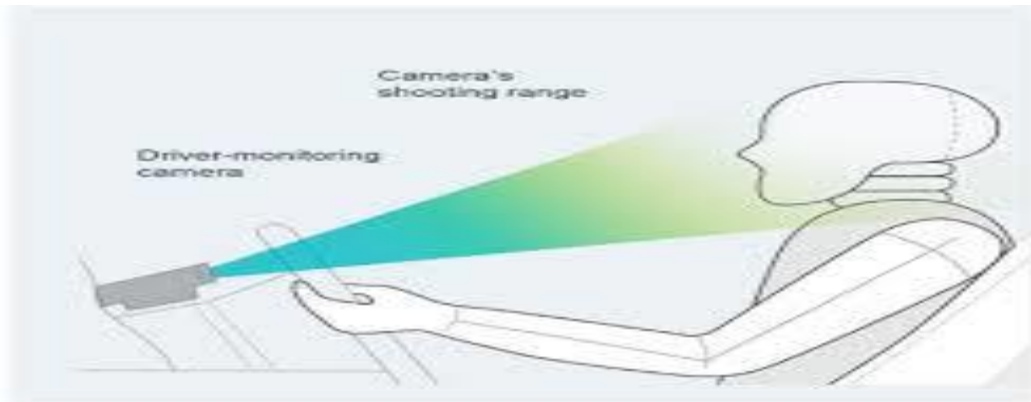
Driver drowsiness detection is a car safety technology which alerts the driver when he gets drowsy. The camera detects the drowsiness and sends a signal to the speakers to alert the driver.

Project Implementation Plan

1. Install the camera to detect the face and extract the eye region.
2. Create an algorithm to detect the drowsiness.
3. Compute the eye aspect ratio to determine if the eyes are closed.
4. Take action when the driver shows signs of drowsiness (send an alert).

Image samples





References

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3. <https://www.pyimagesearch.com/2017/05/08/drowsiness-detection-opencv/?fbclid=IwAR1fgitdnELaj2z-tXrKMf578gBPG7HZ3dSWofHhuAijzv63KCkzIbyEns>