

Drowsiness Detection

Introduction:

Every year there are so many casualties and deaths in India. One of the main reason is drowsiness. It mainly happens as sometimes drivers don't care about drowsiness while driving, they just worry if they stop driving and sleep in the night they would ship their consignment late and they would be cut short of the actual payment. Sometimes it also happens that the driver himself isn't aware that he's likely to fell asleep while driving. While driving a vehicle every minute mistake counts. So there is an actual need of drowsiness detection .Using this detection in a correct way in the vehicle it would help a lot of people and would drastically reduce the number of deaths and caused annually due to drowsiness.

EXISTING SOLUTION:

The present solution includes:

- ❖ Detection of the face from the given image.
- ❖ Detection of eyes from the acquired face.
- ❖ Determining the state of eyes whether closed or open.

Tentative Solutions :

- ❖ Improving the accuracy by taking mouth position and state into consideration.
- ❖ We can analyze the situation by taking combination of eyes monitoring and yawning detection
- ❖ Movements of eye balls are analysed.

Improving the performance of the above method to obtain higher accuracy while testing the above algorithm

Trying to Modify the algorithms to get highest possible accuracy.

Languages : MATLAB ,Python(may be)

Method:

- >Image Acquisition
- >Dividing into frames
- >Face Detection
- >Eye Detection
- > Mouth Detection(for detecting yawning)
- >Eye ball Moment Detection

->Determination of open or closed state on an eye.

Limitations of Work:

If the driver uses Sunglasses then the computation doesn't work.

Evaluation of the performance:

1. Given a Video we will try to give the percentage of drowsiness a person has based on the proposed solution

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