International Journal of Research Publication and Reviews

Driver Sleepiness Detection using Machine Learning.

Prof. Tejashri Mane[1], Akshay Avhad[2], Shubham Kachankar[3]

[1]Computer Engineering JSPM Narhe Technical Campus tejashri992@gmail.com
[2]Computer Engineering JSPM Narhe Technical Campus akshayavhad1998@gmail.com
[3]Computer Engineering JSPM Narhe Technical Campus shubhamkachankar@gmail.com

ABSTRACT---

In this system, we proposed to reduce the number of accidents caused by driver fatigueandthus improve road safety. This system treats the automatic detection of driver drowsinessbased on visual infor- mation and artificial intelligence. We locate, track and analyzeboththe driver face and eyes to measure PERCLOS (percentage of eye closure) with Softmaxfor neural transfer function. it will be also uses alcohole pulse detection to checkout theperson is normal or abnormal. Driver's fatigue is one of the major causes of trafficac-cidents, particularly for drivers of large vehicles (such as buses and heavy trucks) duetoprolonged driving periods and boredom in oc- cupied conditions.

Introduction

Driver fatigue is when a driver's ability to drive safely is reduced as a result of beingphysically or mentally tired or sleepy. Driver fatigue or is a significant safety hazardfor the road transport industry. The main causes of 'drowsy driving' are too little sleep, driving at times when you would normally be asleep and working or being awake for verylong hours. To detect driver drowsiness can be classified into three categories:

1. vehicle-based approaches,

2. behavior-based approaches,

3. physiological-signal based approaches.

In physiological approaches, the physiological signals froma body, suchaselectroencephalogram (EEG) for brain activity, electrooculogram(EOG) for eyemovement, and electrocardiogram (ECG) for heart rate, are evaluated to detect driverdrowsiness. Recent studies show that the methods using physiological signals (spe-cially the EEG signal) can achieve better reliability and accuracy of driver drowsi-ness detection compared to other methods. FATIGUE, drowsiness and sleepinessare often used synonymously in driving state description . Involving multiplehu-man factors, it is multidimensional in nature that researchers have found difficult todefine over past decades Despite the ambiguity surrounding fatigue, it is a critical factor for driving safety. Studies have shown that fatigue is one of the leadingcontributing factors in traffic accidents worldwide . it will be also uses alcoholepulsedetection to check out the person is normal or abnormal. It is particularly critical foroccupational drivers, such as drivers of buses and heavy trucks, due to the fact that they may have to work over a prolonged duration of the driving task, duringthepeakdrowsiness periods.

LITERATURE SURVEY

Towards Detection of Bus Driver Fatigue Based on Robust Visual Analysis of Eye State

:Bappaditya Mandal, Liyuan Li, Gang Sam Wang, and Jie L [1] Driver's fatigue is one of the major causes of traffic accidents, particularly for drivers of large vehicles (such as buses and heavy trucks) due to prolonged driving periods and boredom in working conditions. In this paper, we propose a vision-based fatigue detection system for bus driver monitoring, which is easy and flexible for deployment in buses and large vehicles. The

 "Bus Driver Fatigue and Stress Issues S"

Mr. Phil Hanley

[2] This study was conducted with a "regulation neutral" approach. While the information derived from the study may be useful for decision making by FHWA/OMC, the study does not provide recommendations concerning changes to existingregulations or the creation of new regulations for the motorcoach industry. Human error is a causative factor in 85 percent or more of all crashes. The National Transportation Safety Board (NTSB) has documented numerous motorcoach accidents that have re- sulted in fatalities where driver fatigue has been determined

Potential causes of driver fatigue: a study on transit bus 2 operators in florida

Thobias Sando

[3] :This research study examines the safety impacts of the existing operator hours of duty policies in 51 the state of Florida. Thus, this study uses question- naire surveys, incident data archived by transit 52 agencies and bus driver schedules to determine the relationship between crash involvement and 53 operator schedules. Factors of interest in this study are the influence of shift pattern (start and 54 end time), schedule pattern (split or non – split schedule) and time spent on driving.

Factors of Fatigue and Bus Accident.

Dayang Nailul Munna Abang Abdullah 1 and Ho Li [4] The main purpose of this study is to identify the relationship between the factors of fatigue (working schedule, working condition) and bus accident. 60 bus drivers from a bus agency in Kuching, Sarawak, Malaysia were selected as a sample. Survey questionnaire was used for data collection. They were questioned individu- ally because most of them possessed low level of education and facing difficulties in understanding the questions in English.

Blockchain application and outlook in the banking industry

Modules:

1.Person Detection: Firstly persons image can be detected

2. Eye Detection: After detecting persons eyes capturing is done.

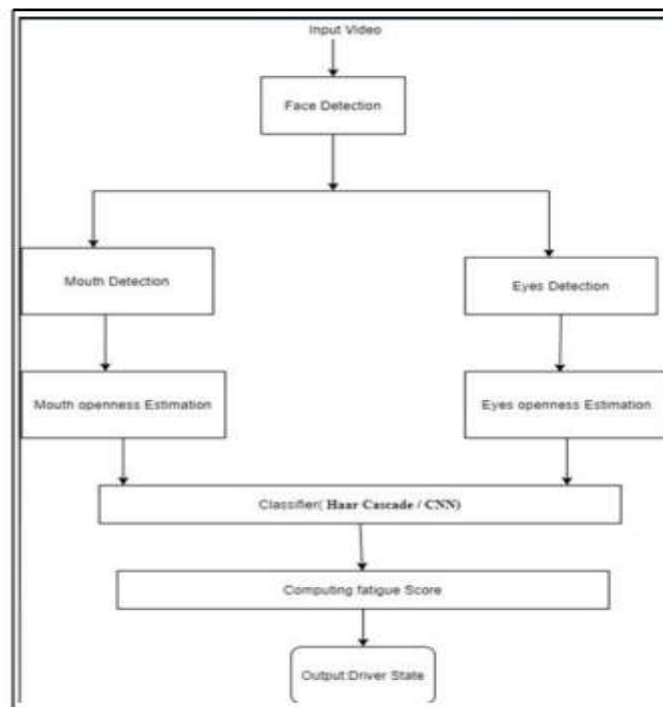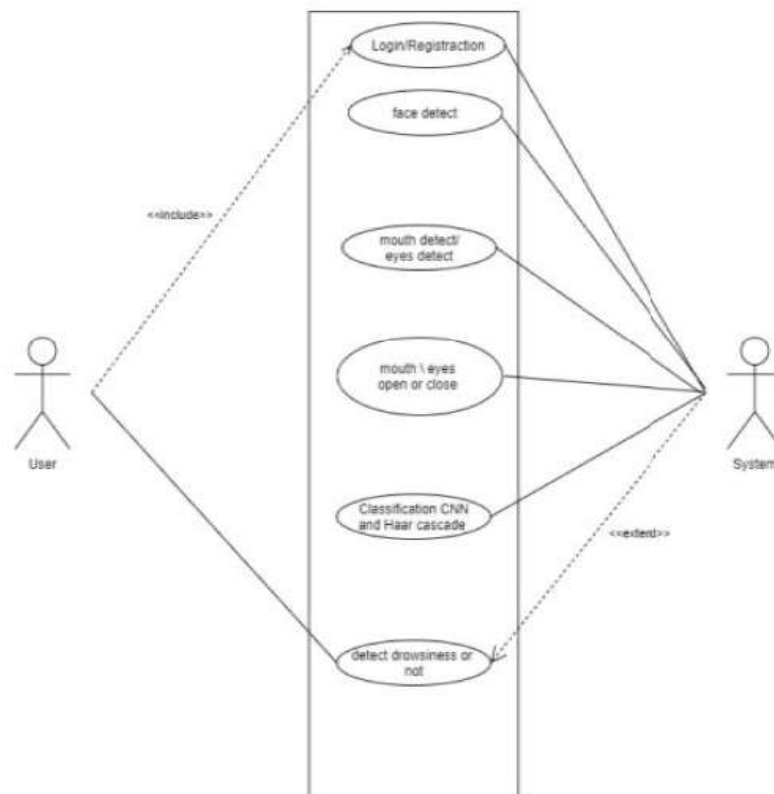3. Iris Detection: After eyes detection the iris will be detcted.

Fig :Proposed System Architecture

Use Case Diagram:

Results:

Conclusion:

The increasing number of traffic accidents due to a diminished driver's vigilance level has become a serious problem for society. Statistics show that 20 percent of all the traffic accidents are due to drivers with a diminished vigilance level. Further- more, accidents related to driver hypo-vigilance are more serious than other types of accidents, since sleepy drivers often do not take correct action prior to a colli- sion. For this reason, developing systems for monitoring driver's level of vigilance and alerting the driver, when he is drowsy and not paying adequate attention to the road, is essential to prevent accidents. it will be also uses alcohole pulse detection to check out the person is normal or abnormal.