**Drowsiness Detection using opencv**

**Abstract:**

The new way of security system which will be discussed in this project is based on machine learning and artificial intelligence. Passenger security is the main concern of the vehicles designers where most of the accidents are caused due to drowsiness and fatigue driving in order to provide better security for saving lives of passengers air bag are designed but this method is useful after accident is accord. But main problem is still we see many accidents happening and many of them are losing their lives. In this project we are using opencv library for image processing and giving input as user live video and training data to detect if person in video is closing eyes or showing any symptoms of drowsiness and fatigue then application will verify with trained data and detect drowsiness and raise alarm which will alert driver.

**Existing system:**

There is various methods like detecting objects which are near to vehicle and front and rear cameras for detecting vehicles approaching near to vehicle and air bag system which can save lives after accident is accorded.

**Disadvantages:**

Most of the existing systems use external factors and inform user about problem and save user after accident is accord but from research most of the accidents are due to faults in user like drowsiness, sleeping while driving.

**Proposed system:**

To deal with this problem and provide an effective system a drowsiness detection system can be developed which can be placed inside any vehicle which will take live video of driver as input and compare with training data and if driver is showing any symptoms of drowsiness system will automatically detect and raise alarm which will alert driver and other passengers.

**Advantages:**

This method will detect problem before any problem accord and inform driver and other passengers by raising alarm.

In this opencv based machine learning techniques are used for automatic detection of drowsiness.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium Dual Core.
* Hard Disk : 120 GB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 1GB.

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows 7.
* Coding Language : python
* Tool : anaconda,visual studio code
* Libraries : opencv