Abstract

Nowadays, accidents occur during drowsy road trips and increase day by day; It is a known fact that many accidents occur due to driver fatigue and sometimes inattention, this research is primarily devoted to maximizing efforts to identify drowsiness. State of the driver under real driving conditions. The aim of driver drowsiness detection systems is to try to reduce these traffic accidents. [11][15]The secondary data collected focuses on previous research on systems for detecting drowsiness and several methods have been used to detect drowsiness or inattentive driving.Our goal is to provide an interface where the program can automatically detect the driver's drowsiness and detect it in the event of an accident by using the image of a person captured by the webcam and examining how this information can be used to improve driving safety can be used. [5][3] a vehicle safety project that helps prevent accidents caused by the driver's sleep. Basically, you're collecting a human image from the webcam and exploring how that information could be used to improve driving safety. Collect images from the live webcam stream and apply machine learning algorithm to the image and recognize the drowsy driver or not.When the driver is sleepy, it plays the buzzer alarm and increases the buzzer sound.[6] When drowsiness is detected, the system issues alerts, such as auditory beeps, encouraging the driver to take a break. [18][14]These alerts are designed to be immediate and non-intrusive, ensuring the driver regains attention without causing panic. Advanced systems may also integrate with navigation tools to suggest nearby rest stops.The technology finds application in both personal and commercial vehicles, enhancing safety for long-haul drivers, taxi operators, and logistics companies. It is particularly valuable during long-distance travel or night-time driving when fatigue-related accidents are more likely. By leveraging real-time monitoring, intelligent algorithms, and user-friendly alerts, the Driver Drowsiness Detection System significantly reduces accident risks, saving lives and preventing property damage. Its integration into modern vehicles marks a crucial step toward safer, smarter transportation system.

Keywords