**COMABATING ROAD TRAFFIC ACCIDENT USING AI**

**Problem Statement:** The goal of this propose idea is to conduct a statistical analysis of the data, investigate the states with the most accidents, investigate when accidents are most likely to occur and the weather conditions at the time of accidents, and create a visual display: summarize and analyze the information, tell the overall situation of accidents within that country, and discover the factors influencing the occurrence and severity of accidents; finally, the severity of the accident is predicted and evaluated.

Now that such technology is readily available, we can see how the international market has been flooded by agents who, taking advantage of the developments in artificial intelligence, we can promote technological services that can detect levels of fatigue, drowsiness, distraction and recklessness while driving, offering to reduce the risk of accidents related to these factors. The technical requirements are relatively simple: A series of cameras and sensors can be installed inside and outside the vehicle, allowing to capture both its movements and the driver’s; this data is subsequently interpreted according to a specific algorithm (for example, that associates eye deviations as distraction, or the slow and repeated movement of the eyelids as drowsiness)

**AIMS AND OBJECTIVES**

Traffic accidents are the greatest cause of death worldwide, taking the lives of millions of people each year due to their regularity. As a result, technology that predicts traffic accidents or accident-prone areas may be able to save lives. Nowadays, there is an increasing emphasis on traffic accident data mining and analysis, which can improve in-depth investigation and reduce traffic-related deaths. We are proposing using Python pandas to analyze car accidents in this project. Real-time data, accident sites, casualty analysis, driving speed, traffic conditions, road structure, and weather may all be used to anticipate accidents. Therefore, we can predict accidents based on a variety of factors. We’ll consider factors such as road conditions, speed limits, and the state in which the accident occurred. The analysis of historical accident data will assist in determining the likely causal relationship between these factors and road accidents, enabling the creation of accident predictors to reduce the risk of injury caused by accidents. As a consequence, utilizing this data collection, a machine learning model is built and applied that can accurately anticipate when and where accidents will occur, reducing the number of automobile accidents.

**PROPOSED APPROACH TO SOLVE PROBLEM AI**

**Intelligent Traffic Management Systems**: Deploy AI-based systems to optimize traffic flow by predicting and controlling vehicle movements, reducing congestion, and preventing accidents. These systems can use real-time data from cameras and sensors to manage traffic lights dynamically, ensuring smoother and safer traffic flow

**Accident Detection and Prevention**: Implement AI models that detect abnormal driving patterns and potential hazards in real-time. These systems can alert drivers or autonomous vehicle systems to take corrective actions, preventing accidents before they occur.

**Intelligent Speed Assistance (ISA)**: Use AI to manage vehicle speeds by integrating in-vehicle cameras and GPS maps. ISA can automatically adjust a vehicle's speed to comply with speed limits and road conditions, reducing the likelihood of accidents caused by speeding.

**Fleet Management Systems**: Utilize AI-driven accident prevention systems for commercial fleets to monitor driver behavior, enforce safety protocols, and provide real-time feedback to drivers, thereby reducing the risk of accidents involving fleet vehicles.