Real Time Driver Drowsiness Detection System using Facial Expression

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Abstract*: Ensuring drivers are well-rested and alert before driving is critical to address the issue of driver fatigue and drowsiness, which poses a significant threat to road safety globally. To achieve this, proactive measures like obtaining adequate sleep, taking breaks, or consuming caffeinated drinks can be taken.*

Innovative facial expression detection technology has been developed to address driver drowsiness. The system monitors key facial landmarks, particularly the eyes and mouth, to detect subtle signs of fatigue such as drooping eyelids and yawning movements. The shape_predictor_68_face_landmarks.dat file, readily available on Kaggle, is used to detect these facial landmarks. When the system identifies signs of fatigue, it offers practical solutions such as recommending nearby hotels for rest and rejuvenation.

This method is particularly beneficial for long-distance truck drivers who spend prolonged periods on highways. By allowing drivers to take necessary breaks when required, this cutting-

edge detection method reduces the risk of accidents caused by drowsiness and ensures a safer journey for all road users.

Keywords: Driver Drowsiness Detection.

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