

# Drowsiness Detection Application

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**Abstract:** Every year, hundreds of people die in car accidents around the world, with the primary cause being driver inattention. A sleepiness detection system will aid in the reduction of this accident and the saving of countless lives all around the world. To defend this problem, we propose a methodology based on Machine learning (ML) that illustrates drowsiness detection as a task to detect an object. It will detect and localize whether the eyes are open or close based on the real time video stream of drivers. Through the live video streaming, a frame is extracted for image processing. Images are captured typically at a fix frame rate of 20fps based on brightness and camera quality. The OpenCV and Dlib support the android platform to detect the faces from the live frame and predict the driver drowsiness. The suggested method aims to improve precision and computational efficiency. It's also cost-effective because it can handle video feeds in real-time and doesn't require any expensive hardware. It is also affordable as it can process incoming video streams in real-time and does not need any expensive hardware support. There only needs a inbuilt camera of android and provide a alert sound when the system predict the driver is drowsy. After that, it send SMS to the police station with these predicted information.

**Keywords:** Android Application, Haar Cascade, Firebase database, Eye Closure, Web Application.

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