

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,  
BELAGAVI**



**MINI PROJECT REPORT  
ON**

**“DETECTION OF DROWSY DRIVER IN REAL-TIME”**

A report submitted in partial fulfilment of the requirements for  
**COMPUTER GRAPHICS AND IMAGE PROCESSING LABORATORY**  
IN

**COMPUTER SCIENCE AND DESIGN ENGINEERING**

Submitted By

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Under the Guidance of

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**CERTIFICATE**

This is to certify that the COMPUTER GRAPHICS AND IMAGE PROCESSING Mini Project entitled **"DETECTION OF DROWSY DRIVER IN REAL TIME"** has been successfully completed by

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the Bonafide students of **Department Of Computer Science And Design Engineering, Alva's Institute of Engineering and Technology** in **DEPARTMENT OF COMPUTER SCIENCE AND DESIGN ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

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## ABSTRACT

This project presents a real-time system designed to monitor driver alertness by detecting blinks and signs of drowsiness. Utilizing video feed from a camera, the system processes images in real-time, applying histogram equalization for improved feature detection under various lighting conditions. Facial landmarks, particularly around the eyes, are identified and analyzed to monitor blink patterns and eye closure, critical indicators of drowsiness. When abnormal blink patterns or prolonged eye closures are detected, the system triggers both visual and audible alerts to notify the driver, thereby enhancing road safety by preventing accidents caused by driver fatigue. The system is user-interactive, allowing the driver to reset or exit the application via simple key presses, and includes robust error handling to ensure reliability. Future enhancements could involve advanced image processing techniques, multi-sensor integration, and a user-friendly interface with better feedback mechanisms. Extensive real-world testing and customization based on individual driver behaviors will further improve accuracy and reliability. This project demonstrates a practical and effective approach to improving road safety, with significant potential to reduce accidents caused by driver drowsiness through continuous system enhancements and integration with other in-vehicle technologies.