

**INTELLIGENT SYSTEM TO PREVENT ACCIDENTS BY
ANALYSING FACIAL EXPRESSION AND HEAD MOVEMENTS**

*A project report submitted to Jawaharlal Nehru Technological University, Kakinada
in the partial fulfillment of the requirements for the award of degree of*

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

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CERTIFICATE

This is to certify that the project work entitled “ **INTELLIGENT SYSTEM TO PREVENT ACCIDENTS BY ANALYSING FACIAL EXPRESSION AND HEAD MOVEMENTS**” is being submitted for the partial fulfilment of requirements for the award of Bachelor of Technology in **Electronics & Communication Engineering** is a bonafide work done by **B.ANUVARA (17811A0409), B.PREMKUMAR (17811A0408), G.NAGASUDHA (17811A0418), J.TIRUMALA (17811A0424)** under the guidance during year 2020 -2021 and it has been found suitable for acceptance according to the requirements of the university.


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EXTERNAL EXAMINER

ABSTRACT

In this document, we bring out our approach to tackle the problem of accidents happening in everyday life on vehicles due to fatigue or distraction because of random sources around. When signs of fatigue or distraction are observed, an alarm is generated to notify the driver to avoid mishappening. In this approach, there are two key contributions; movement of eyelids and mouth to detect drowsiness, motion of head to detect the distraction. This is not a hardware based system. Self-made videos are used as an input data, image processing is done on the extracted frames, and results are being calculated. It has been implemented on the conventional desktop system, the application has been tested on different video sequences, and with different users imitating the symptoms of drowsiness. A set of experiments in the domain of face detection and skin segmentation have been done, some experimental results and conclusions are presented in this paper. The system yields result comparable to the best previous system, we had known.