**ABSTRACT**

Drowsiness especially in long distance journeys is a key factor in traffic accidents. In this paper a new module for automatic driver drowsiness detection based on visual information and Artificial Intelligence is presented. The aim of this system is to locate, track and analyze both the driver's face and eyes to compute a drowsiness index to prevent accidents. Both face and eye detection is performed by Haar-like features and AdaBoost classifiers. In order to achieve better accuracy in face tracking, we propose a new method which is combination of detection and object tracking. Proposed face tracking method, also has capability to self correction. After eye region is found, Local Binary Pattern (LBP) is employed to extract eye characteristics. Using these features, an SVM classifier was trained to perform eye state analysis. In this video we were able to track face by an accuracy of 100% and detecting eye blink by accuracy of 98.4%. Also we can calculate face orientation and tilt using eye position which is valuable knowledge about driver concentration. Finally, we can make a decision about drowsiness and distraction of the driver. Experimental results show high accuracy in each section which makes this system reliable for driver drowsiness detection.