ABSTRACT

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SLEEPY FACE DETECTION SYSTEM FOR FOUR-WHEELED DRIVERS USING HAAR CASCADE

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Keyword : Drowsiness Detection, Haar Cascade, Microsleep,

>   *Computer Vision, OpenCV*

(xii + 52 + attachment)

The rate of traffic accidents is increasing every year and is predicted to be the 7th highest cause of death in the world by 2030. The causes of these accidents include human error, namely fatigue, drowsiness and unfit body conditions. The phenomenon of drowsiness or falling asleep for a few seconds is called microsleep, and the driver is very vulnerable to microsleep because his body is exhausted while driving. methodology in software development using agile methods several stages must be passed, namely planning, implementation, software testing, deployment In this study, the use of the Haar Cascade algorithm will be implemented in detecting the drowsiness of four-wheeled vehicle drivers. The system will be given the ability to issue early warnings when signs of drowsiness are detected. These warnings can be in the form of sound and visual messages that alert the driver of his drowsiness condition and encourage him to take necessary actions, such as stopping and resting. The results of the study are expected to accurately detect eyestrain. Some conclusions that can be drawn in this research, including the implementation process of the drowsiness detection system can recognize signs of drowsiness in the driver. Designing a drowsiness detection system by acquiring facial data, determining facial patterns, making face detection, creating a face detection system by extracting facial landmarks, detecting facial points and analyzing facial culture, determining thresholds & system notifications and calculating the accuracy of the detection system. The accuracy of the drowsiness detection system has a high accuracy of 93.33%. Suggestions for further development can be carried out by further research, including implementing the system on mobile applications and being able to detect drowsy eyes by being obstructed by hair objects that cover the eyes.

Bibliography (2018-2023)