

Real Time Driver Drowsiness System Using Eye Blinking Rate Calculations for Secure Means of Transportation

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Abstract: *With driver fatigue continues to cause serious and deadly car and motorcycles accidents, the need for automatically recognizing driver fatigue and alerting the drivers is apparent. Although various approaches that explore physiological and physical factors to classify driver fatigue have been developed, the overall accuracy, recognition speed, distraction in the driving process and the cost of these systems still need to be improved. In this paper, we present a low-cost driver fatigue level prediction framework (DFLP) for detecting driver fatigue in its earliest stages. DFLP predicts driver fatigue based on eyes, mouth, and head behavior cues using a non-physical contact sensor input (infrared radiation) (IR) camera. DFLP classifies the level of drowsiness and attributes the level of altering accordingly. To validate the proposed fatigue prediction framework, we conducted the experiment using real datasets under night and day illumination conditions. The results of the experiment show that the proposed approach can predict the level of driver's fatigue with 93.3% health experts and readers as well as automakers to develop an in-vehicle fatigue prediction system.*

Keywords: Chatbot, Artificial Intelligence, Human Conversational Partner, Automated.

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