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Smart Driver Monitoring System using Deep Learning

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Abstract: *This research introduces a monitoring system that leverages deep learning methodologies, to analyze and interpret facial features to assess the driver's alertness. With the rapid advancement of technology especially in automobiles this type of monitoring can be employed in all types of vehicles. The proposed system employs deep learning models like YOLOv8 to detect the state of alertness of the driver. This project aims to achieve this by training the deep learning model on a custom dataset with varying background noise to train the model as accurately as possible. Various performance metrics and evaluations will be done to evaluate the accuracy of the model to integrate it into automobiles. This holds great promise for revolutionizing intelligent transportation systems, automotive technologies, regulatory frameworks, public policies, and societal initiatives aimed at improving road safety, driver well-being, and operational excellence on a global scale, ushering in a safer, more efficient, and sustainable transportation ecosystem.*

Keywords: deep-learning, alertness, monitoring, driver, YOLO, system, detection, classification

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