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Traffic Sign Board Detection and Voice Alert System

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Abstract: *Automated tasks have simplified practically everything we perform in today's world. Drivers often miss signage on the side of the road in an effort to focus on the road, which can be dangerous for them and others. This issue may be avoided if there was a quick way to alert the driver without requiring them to divert their attention. TSDR (Traffic Sign Detection and Recognition) is useful in this situation because it detects and recognizes signs, alerting the motorist to any forthcoming signs. This not only assures road safety, but also puts the driver at ease when driving on unfamiliar or difficult roads. Another issue that arises frequently is the inability to comprehend the sign's meaning. Drivers will no longer struggle to grasp what the sign is saying thanks to this Advanced Driver Assistance Systems (ADAS) application. In this paper, we propose a method for detecting and recognizing traffic signs that uses image processing for detection and an ensemble of Convolutional Neural Networks (**LeNet**) for recognition. Because LeNet CNN have a high recognition rate, they are ideal for a variety of computer vision tasks. For the CNN implementation, Tensor Flow is employed. And here for object detection we implement yolo frame work On the German data sets, we achieved recognition accuracies of more than 99 percent for circular signs.*

Keywords: Self-Driving Car, traffic sign, recognition and detection, YOLO, Lenet

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