Helmet and Triple Seat Detection with Number Plate Extraction for Motorcyclists using Advanced Deep Learning Techniques

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Abstract: *This abstract presents a novel approach for detecting helmets and triple seat violations, as well as extracting number plates, to enhance the safety and compliance of motorcyclists. The proposed method leverages advanced deep learning techniques to accurately identify helmets and triple seat riders in real-time video footage. Additionally, it employs number plate extraction to enable automated monitoring and identification of motorcycles. The system utilizes a combination of convolutional neural networks (CNNs) and object detection algorithms to achieve high detection accuracy. Experimental results demonstrate the effectiveness of the proposed approach in detecting helmet and triple seat violations, as well as extracting number plates with remarkable precision. The developed system holds great potential for improving road safety by enabling automated monitoring and enforcement of traffic regulations for motorcyclists.*

Keywords: Helmet detection, triple seat detection, number plate extraction, motorcyclists, deep learning techniques, convolutional neural networks, object detection, road safety, automated monitoring, traffic regulations.
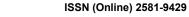
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DOI: 10.48175/IJARSCT-11644

283

ISSN
2581-9429
IJARSCT