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Helmet Detection using artificial Intelligence

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Abstract: *This is because more people are riding motorcycles on the highways these days, resulting in a rise in the number of accidents and injuries. The motorbike rider's failure to wear a protective helmet was one of the key causes of the accident. You can check whether or not they are wearing helmets now by looking at CCTV footage from surrounding buildings or at a pedestrian crossing. It is critical that people interact with either of these systems in order to locate those who are not wearing helmets. By utilizing a structure similar to that of a computerization machine, the proposed framework, for example, may discriminate between shots of motorcyclists wearing helmets and images of motorcyclists not wearing helmets. A feature of an object is classified by the system based on the information it has gathered about it. The system uses a deep learning architecture based on the You Only Look Once (YOLO)-Darknet principle in its current state. To produce a powerful deep learning system, this deep learning architecture combines computer vision with convolutional neural networks that have been trained on common things in context (COCO). YOLO's convolutional layers were trained to recognize three different types of objects using a sliding window approach, which was made possible by the layers.*

Keywords: CNN-Convolutional Neural Network, R-CNN-Region based CNN, YOLO-You Only Look Once, SVM-Support Vector Machine, IDE-Integrated Development Environment, CCTV-Closed Circuit Television

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