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(57) Abstract :
Currently, traffic restrictions in India provide challenges that can be addressed through several approaches. Riding a motorcycle or moped without a helmet is a traffic offense that leads to more accidents and deaths in India. The current method relies on CCTV records to monitor traffic offenses. Police officers must zoom in on the license plate if the rider is not wearing a helmet. Managing traffic offenses and the growing number of motorcycle riders demands significant effort and time. Imagine a system that automatically detects traffic violations such as not wearing a helmet while riding a motorcycle or scooter and extracts the vehicle's license plate number. Recent study has effectively used CNN, R-CNN, LBP, HOG, and HAAR characteristics. But these works are limited in terms of efficiency. The precision or speed at which objects are detected and classified. This study develops a Non-Helmet Rider detection system that automates the process of identifying traffic violations and retrieving vehicle license plates. The primary premise is to detect objects using Deep Learning at three layers. Objects spotted include a human, a motorcycle/moped, a helmet, and a license plate using YOLOv2. The license plate registration number is extracted by OCR (Optical Character Recognition). All procedures, including license plate number extraction, have predefined conditions and limits.

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