

ABSTRACT

Traffic safety is a critical issue that requires special attention to reduce the number of accidents and violations. One important effort is to ensure helmet use by motorcyclists. Manual enforcement of this violation is less effective and labor-intensive. To overcome this problem, this research develops a computer vision-based automatic detection system to detect helmet use. The system utilizes the YOLOv8 (You Only Look Once) algorithm to detect the presence of helmets on riders. The implementation process involves capturing images from cameras installed at strategic locations, followed by image pre-processing and object detection. The data obtained is then detected for whether the rider is wearing a helmet or not. The test results on this YOLOv8 model resulted in a precision value of 78%, recall of 76.2% and mAP of 81.1%.

Keywords : Object Detection, Helmet Wearing, Computer Vision, YOLOv8