

ABSTRACT

Pedestrian detection is one of the problems in the field of computer vision that still requires attention, given that pedestrian objects have high variations in shape, pose, and size and often appear in complex backgrounds. These conditions make the process of identifying pedestrians more challenging, especially in images or videos with high visual complexity. Therefore, a deep learning-based object detection model capable of producing adequate accuracy is needed. This study aims to implement and evaluate the performance of the YOLO11 architecture in detecting the presence of pedestrians. The dataset used in this study is a single-class pedestrian dataset obtained from the Roboflow platform. The model training process was carried out through several hyperparameter configuration experiments, including batch size, learning rate, and dropout, to obtain the best performance. Model performance evaluation was conducted using the Average Precision (AP) metric. The results showed that the best model achieved an AP value of 0.952 with a batch size configuration of 16, a learning rate of 10^{-4} , and a dropout of 0.5. Based on these results, it can be concluded that the YOLO11 architecture can provide good performance in detecting pedestrians.

Keywords : *Pedestrian, Image, Object Detection, YOLO11.*