

ABSTRACT

Traffic accidents are one of the most frequent non-natural disasters in Indonesia and are frequently reported. Accidents can occur on various types of roads, ranging from highways, toll roads, to small streets. Based on their severity, traffic accidents can be categorized as light, moderate, or severe. Minor accidents generally result in light injuries or even no injuries, while moderate to severe accidents often lead to serious injuries that can threaten the rider's life. In such situations, rapid medical intervention is crucial to save the victim's life. To minimize the risk of fatalities, it is important for authorities to have accurate knowledge of the situation around the accident site, including the number of victims involved. This allows medical assistance and rescue teams to be dispatched quickly and precisely for aid. In this study, the author proposes a solution in the form of a system to detect riders involved in traffic accidents by utilizing CCTV data and employing the YOLOv9 object detection method. The results show that the developed system can detect riders involved in accidents using only CCTV data and demonstrates that the YOLOv9 model achieves an AP@50 of 0.7153, precision of 0.748, recall of 0.609, average confidence of 0.63 and IoU of 0.73. The results indicate a good performance, and it is expected to improve the effectiveness of rapid response in emergency situations.

Keywords: YOLO, Accident Driver Detection, Accident, Traffic