

ABSTRACT

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YOLO ALGORITHM IMPLEMENTATION IN DETECTING VEHICLE NUMBER PLATES ON THE ROAD.

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(xv + 75 + lampiran)

There are various deep learning architectures that function to detect objects, such as the YOLO (You Only Look Once) Algorithm. With the increasing number of vehicles in Indonesia, manually inspecting each vehicle one by one has become highly challenging and inefficient. Therefore, a license plate detection system is required to facilitate the identification of violations, especially those without visible license plates. The implementation of YOLOv8 for vehicle license plate detection has been successful. YOLOv8 effectively addresses the task of object detection, particularly in recognizing vehicle license plates across diverse scenarios. Conducted experiments demonstrate that the YOLOv8 model possesses strong capabilities in accurately identifying vehicle license plates, achieving a satisfactory level of accuracy, especially following the training phase aimed at minimizing loss values. Continual monitoring of performance and periodic evaluations of detection and character recognition results are crucial. Further testing under various usage scenarios can aid in identifying potential issues or areas that require further enhancement. However, in the context of implementing YOLOv8 for license plate detection, it is advisable to concentrate on improving object detection accuracy in more complex situations. The application of YOLOv8 and the application of EasyOCR to detect vehicle number plates were successfully implemented well. YOLOv8 successfully handles the task of detecting objects well, especially in recognizing vehicle number plates in various situations. However, there are still many vehicles whose number plates are inaccurate due to several factors, one of which is the lighting and the original plate number being less clear so that when detected it becomes less accurate.

Bibliography (2018-2023)