## *ABSTRACT*

*The rail transportation system is a very important sector in people's lives, because it has a vital role in connecting regions and driving economic growth. Railroad car labels are used to identify the purpose and type of carriage used. The rail transportation system is a field that requires efficient data processing. Collecting data from railroad car labels manually still requires quite a long time and is prone to errors.*

*The method used in this study is image processing, namely the OCR (Optical Character Recognition) method which functions as a reading of images into characters. The ROI (Region of Interest) method, also known as cropping, is a technique in image processing used to select labels from train cars, by selecting ROI, we can focus on the important part of the image and remove irrelevant parts of the image, then images are processed using OpenCV. The results of the image processing are read by Tesseract OCR, then the text results from the labels of the train cars will be displayed on the website.*

*The test results of this system are that it can detect text from railroad car labels in real-time at different distance parameters, namely 10cm, 20cm, 30cm, 40cm, 50cm and 60cm with a shooting angle of 90° and lighting levels of 45 Lux, 90 Lux, 120 Lux and 210 Lux. This OCR character reading is capable of achieving 100% accuracy.*


***Keywords:*** *Optical Character Recognition, image processing, Region of Interest, train labels.*