IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 7, June 2025
Impact Factor: 7.67

Vehicle Number Plate Detection Using Open CV and Tesseract OCR

Shubhangi Mahule[1], G Nikhil Reddy[2], K Harish[3], G Ranjith Kumar[4], B Vardhan[5],
Associate Professor, Computer Science Engineering[1]
Students, Computer Science Engineering[2-5]
ACE Engineering College, Ghatkesar, India

Abstract: *License plate detection is an image processing technology that uses a license (number) plate for vehicle identification. The objective is to design and implement an efficient vehicle identification system that identifies the vehicle using the vehicle's license plate. The system can be implemented on the entrance of parking lots, toll booths, or any private premises like college, etc. to keep the records of on-going and outgoing vehicles. It can be used to allow access to only permitted vehicles inside the premises. The developed system first captures the image of the vehicle's front, then detects the license plate and then reads the license plate. The vehicle license plate is extracted using the image processing of the image. Optical character recognition (OCR) is used for character recognition. The system is implemented using OpenCV and its performance is tested on various images. It is observed that the developed system successfully detects and recognizes the vehicle license plate. To recognize License number plates using the Python programming language. We will utilize OpenCV for this project in order to identify the license number plates and the python pytesseract for the characters and digits extraction from the plate. We will build a Python program that automatically recognizes the License Number Plate.*

Keywords: *Vehicle Plate Recognition, OpenCV, Tesseract OCR, Python, Vehicle Identification*

DOI: 10.48175/IJARSCT-28045