IJARSCT



International Journal of Advanced Research in Science, Communication and Technology

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 5, Issue 6, May 2025



Automatic Number Plate Recognition with High Speed Vehicle Mail Alert

Dr. S. L. Kurkute¹, Mr. Ajay Mungase², Miss. Shraddha Shewale³, Miss. Pooja Kolse⁴ Prof. Electronics & Telecommunication Engg. Department, Pravara Rural Engineering College, Loni, India¹ Students, Electronics & Telecommunication Engg. Department, Pravara Rural Engg. College, Loni, India^{2,3,4}

Abstract: Automated Number Plate recognition (ANPR) is a critical generation in modern traffic control and law enforcement. This paper presents a complicated ANPR system designed to stumble on and apprehend automobile variety plates in high-velocity scenarios and generate real-time indicators through e mail. The proposed gadget utilizes high-resolution cameras blended with device masteringprimarily based Optical character popularity (OCR) for accurate plate detection. A robust image preprocessing pipeline guarantees optimal performance even in challenging environments with fluctuating lighting and motion blur. The license plate data collected is cross-referenced with a database, triggering immediate email notifications for any blacklisted or unauthorized vehicles. This system is fine-tuned for high-speed processing, delivering minimal delays and exceptional accuracy. Its implementation significantly enhances traffic monitoring, toll automation, and safety enforcement, making it an essential tool for smart cities and advanced transportation frameworks. Performance evaluations show high accuracy and low latency, making it well-suited for real-world applications such as highway surveillance, toll collection automation, parking management, and security enforcement. The incorporation of artificial intelligence with traditional Automatic Number Plate Recognition (ANPR) technology boosts both performance and scalability, positioning this system as a vital component in the development of smart transportation networks. The ANPR system utilizes Optical Character Recognition (OCR) to accurately extract alphanumeric information from captured plates, even under challenging conditions like poor lighting, adverse weather, and high vehicle speeds. By means of integrating this device with a centralized database and a customizable e-mail notification module, authorized employees are directly notified, which aids in real-time selection-making and law enforcement movements. This project tackles critical challenges in vehicle recognition systems, such as processing speed, accuracy, and reliability, making it an essential tool for smart city infrastructure and enhanced safety programs.

Keywords: Automatic Number Plate Recognition, High-Speed Vehicle Detection, OCR, Real-Time Alert System, Smart Traffic Management, Email Notification

Copyright to IJARSCT www.ijarsct.co.in



DOI: 10.48175/IJARSCT-26743



460