Automatic Number Plate Recognition for the University's Auto-Gate System

Abstract

This project presents a real-time Automatic Number Plate Recognition (ANPR) system to enhance the university's auto gate security. Using deep learning with YOLOv8 for plate detection and PaddleOCR for text extraction, the system identifies vehicles and grants or denies access automatically.

Project Background

University gates are often manually operated, leading to time delays and security concerns. ANPR helps automate this process by scanning license plates and verifying entries in real-time.

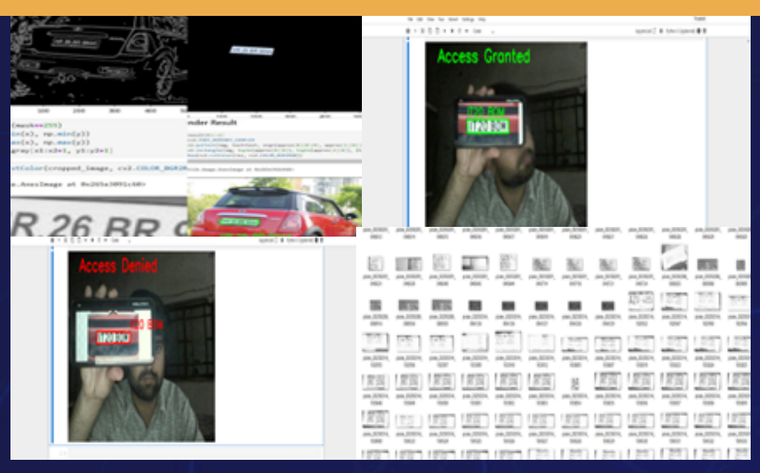
Objectives

- Automate gate entry using plate recognition
- Increase campus security
- Maintain a log of vehicle entries/exits
- Support old and new vehicle plates (different formats)

Methodology

- Image Capture (Camera)
- YOLOv8 Detection (Plate detection)
- PaddleOCR (Extract text from plate)
- Database Matching (Allow/Block vehicle)
- Gate Open Signal (If allowed)

Experiment and Results



Technologies Used

Supervisor: Ms: Roheen Qamar

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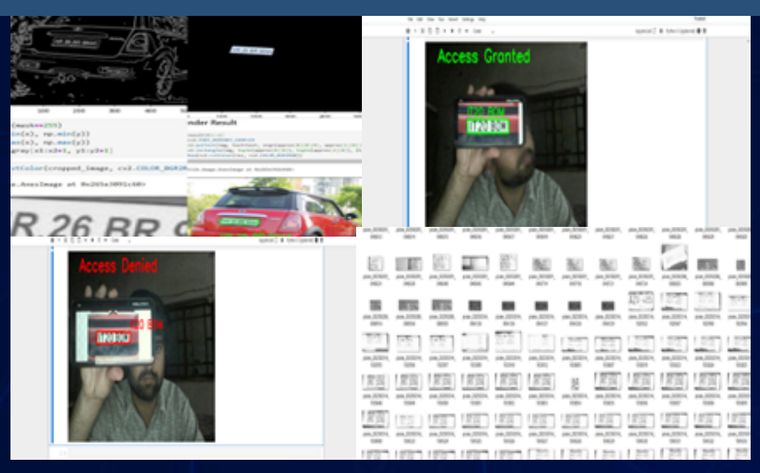

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