Detect And Recognize Car License Plate from a Video in real time

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Steps for project:

Creating the environment (Conda) initiating it.

Importing Russian haarcascade model

OpenCv

Contents in OpenCv file:

1.Load Haar Cascade Model

2. Sets the video frame width to 640 pixels and height to 480 pixels.

3. **Parameters for Detection**

Min_ area: Minimum area threshold for detected objects (to filter out very small objects).

count: Counter to keep track of saved images.

4. Process Each Frame

5. Loads the Haar Cascade classifier for number plate detection.

6. Converts the frame to grayscale, as Haar Cascade works better on grayscale images.

7. Detects objects (number plates) in the grayscale frame.

8. Loops through all detected objects.

- (x, y): Top-left corner of the detected rectangle.
- (w, h): Width and height of the rectangle.
- area: Calculates the area of the rectangle to filter small objects.

9. Proceeds only if the detected object is larger than min_area.

10. Draws a green rectangle around the detected number plate.

Adds a label "Number Plate" above the rectangle in pink text.

11. Saves the ROI (detected number plate) as a .jpg file in the plates folder with a unique name based on count.

12. Displays the updated frame for 500 milliseconds and increments the count variable for the next saved file.

13.Implemented The EasyOCR model for extracting the letters from the saved number plate.