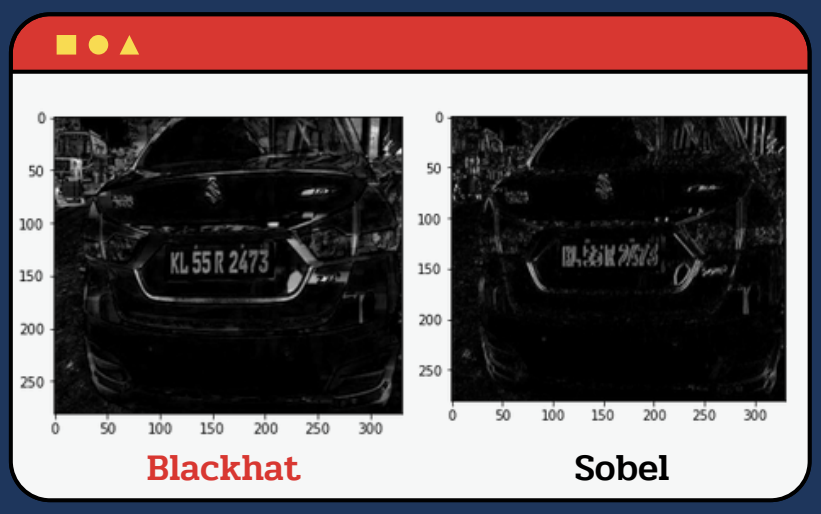
License Plate Recognition

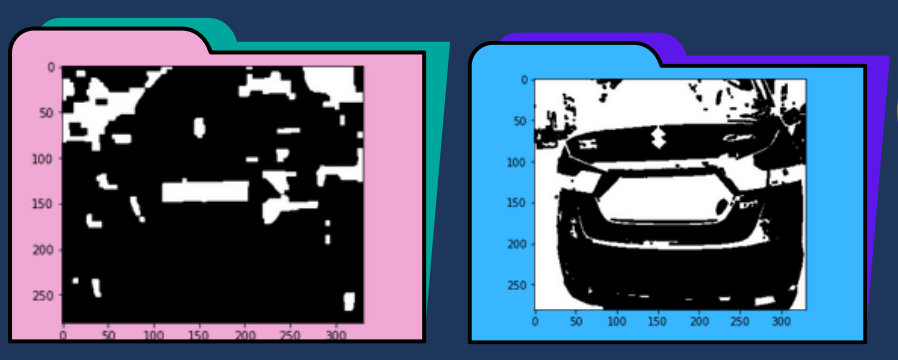
WHY WE DO ?

Nowadays, **over 1.2 million people** die each year on the world's roads. Enforcing Road Safety Laws is one way to reduce them. However, polices have to read too muchlicense plate of people who break traffic law. So, we create License Plate Recognition system to **reduce task them.**

STEP 00



STEP 01



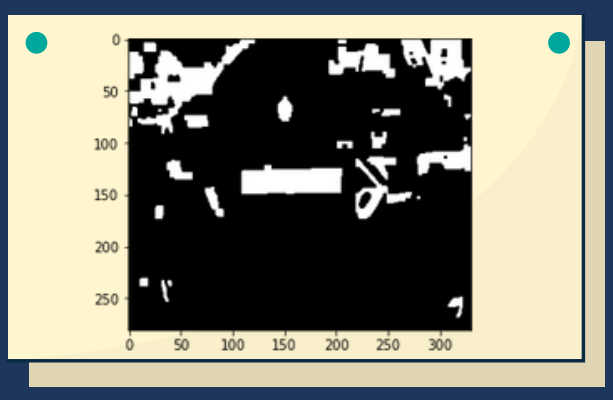
1.Blackhat and Sobel

Use **blackhat**, which finds difference between closing image and original image, to extract characters and symbols on the image. Then use **Sobel** to find edges of characters.

STEP 02

2.Light Regions and Character Regions

Use closing technique to Sobel image (edges of characters) to form **Character Regions** (regions which may have license plate characters). And also use closing technique to original image to get **Light Regions** as we know license plate is white with black characters.



3.Get the possible regions for license plate

STEP 03

Operate bitwise AND between Character Regions and Light Regions (plate region) to form possible regions for license plate as license plate must consist of details from Character Regions (character) and Light Regions (possible plate).

Detect real plate and read the characters

STEP 04

Use **findContour operation** to find license plate candidates from possible regions and detect the real plate from the actual aspect ratio of license plate. **Crop the detected license plate** and use **pytesseract OCR** to read the characters from cropped image.

src - https://github.com/ComradeMack/LicensePlateRecognition