import numpy as np

import cv2

import imutils

import sys

import pytesseract

#pytesseract.pytesseract.tesseract\_cmd=r'C:\Tesseract-OCR\tesseract.exe'

import pandas as pd

import time

image = cv2.imread('car.jpg')

image = imutils.resize(image, width=500)

cv2.imshow("Original Image", image)

gray = cv2.cvtColor(image, cv2.COLOR\_BGR2GRAY)

#cv2.imshow("1 - Grayscale Conversion", gray)

gray = cv2.bilateralFilter(gray, 11, 17, 17)

#cv2.imshow("2 - Bilateral Filter", gray)

edged = cv2.Canny(gray, 170, 200)

#cv2.imshow("4 - Canny Edges", edged)

cnts, new = cv2.findContours(edged.copy(), cv2.RETR\_LIST, cv2.CHAIN\_APPROX\_SIMPLE)

cnts=sorted(cnts, key = cv2.contourArea, reverse = True)[:30]

NumberPlateCnt = None

count = 0

for c in cnts:

peri = cv2.arcLength(c, True)

approx = cv2.approxPolyDP(c, 0.02 \* peri, True)

if len(approx) == 4:

NumberPlateCnt = approx

break

# Masking the part other than the number plate

mask = np.zeros(gray.shape,np.uint8)

new\_image = cv2.drawContours(mask,[NumberPlateCnt],0,255,-1)

new\_image = cv2.bitwise\_and(image,image,mask=mask)

cv2.namedWindow("Final\_image",cv2.WINDOW\_NORMAL)

cv2.imshow("Final\_image",new\_image)

# Configuration for tesseract

#config = ('-l eng --oem 1 --psm 3')

# Run tesseract OCR on image

pytesseract.pytesseract.tesseract\_cmd=r'C:\Tesseract-OCR\tesseract.exe'

text = str(pytesseract.image\_to\_string(new\_image))

#Data is stored in CSV file

raw\_data = {'date': [time.asctime( time.localtime(time.time()) )],

'v\_number': [text]}

df = pd.DataFrame(raw\_data, columns = ['date', 'v\_number'])

df.to\_csv('data.csv')

# Print recognized text

print(text)

cv2.waitKey(0)