

AUTOMATIC NUMBER PLATE RECOGNITION

Overview of the Project:

Number Plate Recognition System is an image processing technology which uses number (license) plate to identify the vehicle. The objective is to build a web application that can efficient automatic authorized vehicle identification system by using the vehicle number plate. Number plate recognition (NPR) can be used in various fields such as vehicle tracking, traffic monitoring, automatic payment of tolls on highways or bridges, surveillance systems, tolls collection points, and parking management systems.

The escalating increase of contemporary urban and national road networks over the last decades emerged the need for efficient monitoring and management of road traffic. Meanwhile, rising vehicle use causes social problems such as accidents, traffic congestion, and consequent traffic pollution. Number Plate Recognition is a process where vehicles are identified or recognized using their number plate or license plate. NPR uses image processing techniques so as to extract the vehicle number plate from digital images.

Skills required :

Python,Flask Integration,API

Project Objectives :

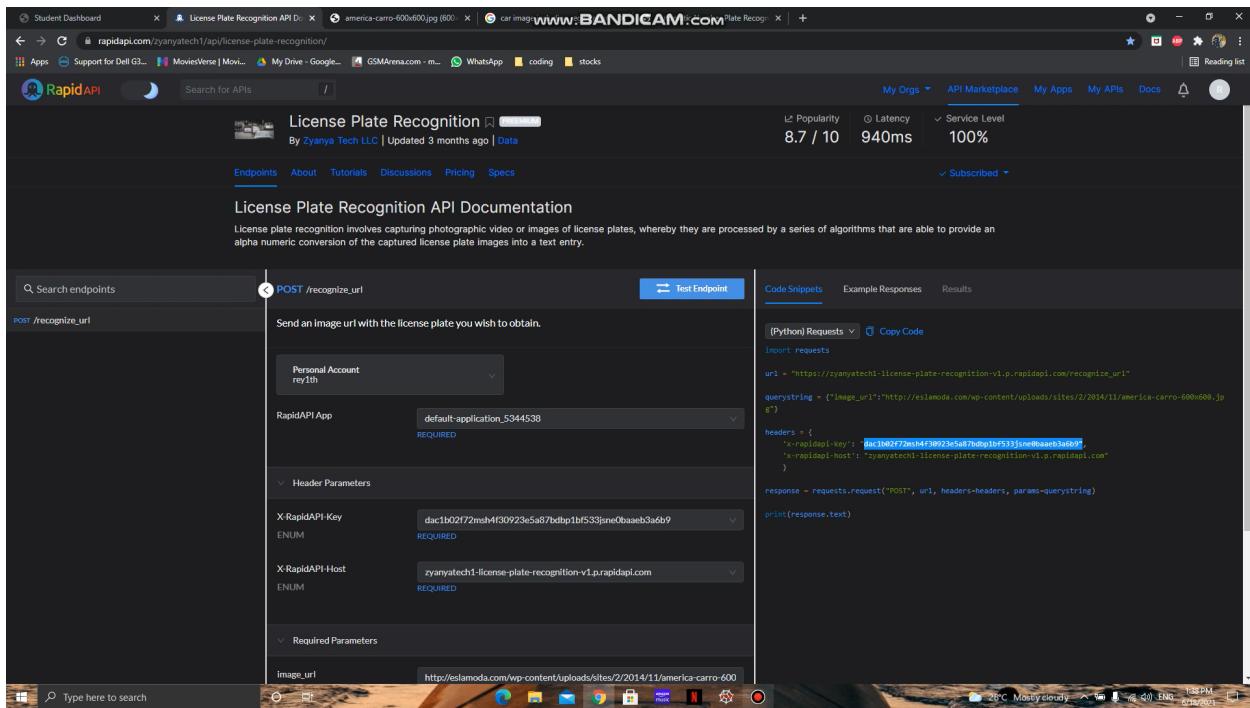
- What is an API?
- How API can be integrated into web application
- How to hit the APIs, send and retrieve the data
- How to build web applications using flask framework

Project Explanation :

After installing anaconda navigator and required python packages we need to create an account in Rapid API .

After creating an account we need to subscribe for a API named License plate recognition.

Now we will get a python(requests) code which contains an API key which is unique which you can see below.



Copy the code and run it in your spyder as it shown below.

Buildind a Flask application :

Line 1-2 : Importing of libraries

Line 4-19 : Define A Function That Calls Your API To Fetch Results Via Web App

Line 21-23 : Routing Of The HTML Pages

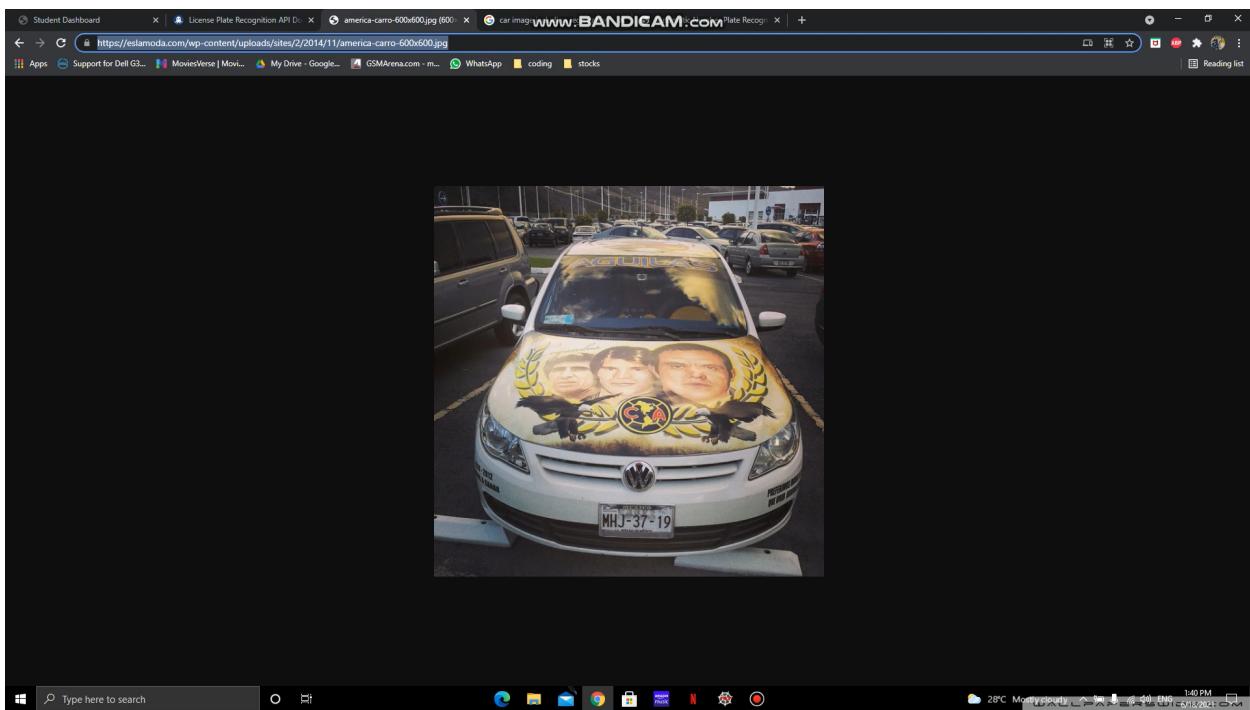
Line 25-29 : Configure The Results Page

Line 31-32 :Calling Of Main Function

After running this code in anaconda prompt or in console we will get a local host URL .

Copy that localhost URL and open that URL in the browser. It does navigate you to them where you can view your web page.

It will ask to input an image URL. This my input which is shown below



And our output will be like this



Conclusion :

Our output contains the number plate with confidence score. Confidence score may

vary due to these factors :

1. Broken number plate
2. Blurry images
3. Low resolution of the characters
4. Similarity between certain characters like O and D , 5 and S , 8 and B , 0 and 0 etc...

Github Repo Link :-

<https://github.com/Rey1th/Automatic-number-plate-recognition>

Project Demonstration Video Drive Link :-

https://drive.google.com/file/d/1GEGhdwEs_Y5QAvQLRa2nAXlhXT731ou1/view?usp=sharing