

# Abstract

Our project describes a detection method of car number plates on digital images. The method inputs the graytone image of a car and extracts from it the characters on the number plate.

License plate recognition (LPR) algorithms in images are generally composed of the following three processing

steps:

1. Extraction of a license plate region;
2. Segmentation of the plate characters;
3. Recognition of each character.

This task is quite challenging due to the diversity of plate formats and the nonuniform outdoor illumination conditions during image acquisition. Therefore, most approaches work only under restricted conditions such as fixed illumination, limited vehicle speed, designated routes, and stationary backgrounds. Issues such as processing time, computational power, and recognition rate are also addressed, when available. Finally, this project offers us with a scope to link to a public database to define a common reference point for LPR algorithmic assessment.

In this project we have used Matlab for the designing of the application. The process of license plate localization includes two steps:

1. Preprocessing the image for noise reduction.
2. Edge detection: We have used sobel operator for detecting the edges of the image.
3. Extraction of the plate region : We have used histogram analysis technique to finally extract the candidate region which is the license plate in our case. This technique is directly applied on the edge detected image.

Our future work will mostly emphasise on segmentation of the plate characters and recognising each character such that we can recover other relevant information relevant to the license plates of various cars and thus maintaining databases.