# Car License Recognition System

## Purpose

Learn how to use OpenALPR to recognize a car license.

## Steps

On Raspberry Pi:

1. `sudo apt-get update`
2. `sudo apt-get upgrade`
3. `sudo apt-get install autoconf automake libtool libleptonica-dev libicu-dev libpango1.0-dev libcairo2-dev cmake git libgtk2.0-dev pkg-config libavcodec-dev libavformat-dev libswscale-dev python-dev python-numpy libjpeg-dev libpng-dev libtiff-dev libjasper-dev libdc1394-22-dev virtualenvwrapper liblog4cplus-dev libcurl4-openssl-dev`
4. `sudo apt-get install libjpeg-dev libtiff5-dev libpng12-dev gcc make`
5. `wget http://www.leptonica.com/source/leptonica-1.74.4.tar.gz`
6. `tar zxvf leptonica-1.74.4.tar.gz`
7. `cd leptonica-1.74.4`
8. `./configure`
9. `make -j 3`
10. `sudo make install`
11. `sudo apt-get install ca-certificates git`
12. `sudo apt-get install autoconf automake libtool`
13. `sudo apt-get install autoconf-archive`
14. `sudo apt-get install pkg-config`
15. `sudo apt-get install libicu-dev`
16. `sudo apt-get install libpango1.0-dev`
17. `sudo apt-get install libcairo2-dev`
18. `git clone https://github.com/tesseract-ocr/tesseract.git`
19. `cd /tesseract`
20. `git checkout 3.04.01`
21. `./autogen.sh`
22. `./configure --enable-debug`
23. `make -j 3`
24. `sudo make install`
25. `sudo ldconfig`
26. `apt-cache search opencv`
27. `apt-get install libcv2.4 libcvaux2.4 libhighgui2.4 --reinstall`, if the cached version is not 2.4, install the cached version.
28. `apt-get install libcv-dev libcvaux-dev libhighgui-dev --reinstall`
29. `sudo apt-get install libopencv-dev --reinstall`
30. `sudo apt-get install cmake`
31. `sudo apt-get install liblog4cplus-dev libcurl3-dev`
32. `sudo apt-get install beanstalkd`
33. `export JAVA_HOME=/usr/lib/jvm/` ***Java directory***

34. `git clone https://github.com/openalpr/openalpr.git`
35. `cd openalpr/src`
36. `mkdir build`
37. `cd build`
38. `cmake -DCMAKE_INSTALL_PREFIX:PATH=/usr -DCMAKE_INSTALL_SYSCONFDIR:PATH=/etc ../`
39. `make -j 3`
40. `sudo make install`
41. Find a picture which contains a car license plate.
42. `alpr [target picture]`

# Problems

1. There were some problems related OpenCV. Reinstalling OpenCV components fixed the problems.