Cadla Services India Private Limited

Setup of Raspberry Pi :

1) Download the raspbian os from : https://www.raspberrypi.org/downloads/raspbian/.Recommended OS is **Raspbian stretch**. I have also provided the OS(as it is missing from the site).
2) Download **balenaEtcher** to write OS in the Sd-Card. Flash the OS on the Sd-Card.
3) Place the Sd-Card in the Raspberry Pi. Turn it on. Configure the monitor resolution(if required).
4) Install Tensorflow (by .whl package provided) by following command : **pip3 install tensorflow-2.0.0a0-cp35-cp35m-linux_armv7l.whl**
5) Check the tensorflow. Most probably you have to install libatlas. Install in by command : **sudo apt install libatlas-base-dev**
6) Check that pillow is installed or not(Most probably it will be installed).
   6a) If not installed, Install dependencies for Pillow by following commands:
   sudo apt-get update
   sudo apt-get install libjpeg-dev -y
   sudo apt-get install zlib1g-dev -y
   sudo apt-get install libfreetype6-dev -y
   sudo apt-get install liblcms1-dev -y
   sudo apt-get install libopenjp2-7 -y
   sudo apt-get install libtiff5 -y
   Now install the pillow(also called PIL) by : **pip3 install pillow**
7) Check if **picamera** is present(Most probably it will be installed automatically).if not installed, install it by : **pip3 install picamera**
8) Check the python3 version by : **python3 -V**. Highly recommended to use the version **'3.5.3'** on Raspberry pi.
9) Go to Raspberry Pi configuration by clicking on Raspberry pi icon (top-leftmost) then Preferences then Raspberry Pi configuration. Click on the interfaces tab and enable **camera,VNC and SSH.**
   You also do this by issuing the command "**sudo raspi-config**" on the terminal and going on **interfaces**

Note : To reduce the elapsed time of model loading and prediction :-

1) Make the program multi threaded. Try to use all the 4 cores of Rpi
2) If possible change the language like to C++(which is faster than python).