OS ubuntu 18.04 installed

Install nvidia drivers
https://www.linuxbabe.com/ubuntu/install-nvidia-driver-ubuntu-18-04

Used method one, i.e. use `softare & updates` program then `additional drivers`

Install cuda
Download deb(local) from https://developer.nvidia.com/cuda-10.0-download-archive?target_os=Linux&target_arch=x86_64&target_distro=Ubuntu&target_version=1804&target_type=deblocal

(Follow steps 1,2 and 3 but not 4)

sudo dpkg -i cuda-repo-ubuntu1804-10-0-local-10.0.130-410.48_1.0-1_amd64.deb

sudo apt-key add /var/cuda-repo-10-0-local-10.0.130-410.48/7fa2af80.pub

sudo apt-get update

After 3, do

sudo apt-get install cuda-toolkit-10.0

export PATH using

```
export PATH=/usr/local/cuda-10.0/bin${PATH:+:${PATH}}
```

export LD_LIBRARY_PATH

export LD_LIBRARY_PATH=/usr/local/cuda-10.0/lib${LD_LIBRARY_PATH:+:${LD_LIBRARY_PATH}}

compile samples (used sudo)
cd /usr/local/cuda/samples/
sudo make
cd bin/x86_64/linux/release/

run ./deviceQuery
 Output should have PASS

Install cudnn
Download cudnn from https://developer.nvidia.com/rdp/cudnn-download (you will need log in credentials)

Follow step 3 and 4 (see below note) from https://medium.com/@peterjussi/multicuda-multiple-versions-of-cuda-on-one-machine-4b6ccda6faae

tar -xzvf cudnn-10.0-linux-x64-v7.6.5.32.tgz
sudo cp cuda/include/cudnn.h /usr/local/cuda-10.0/include

sudo cp cuda/lib64/libcudnn* /usr/local/cuda-10.0/lib64
sudo chmod a+r /usr/local/cuda-10.0/include/cudnn.h /usr/local/cuda-10.0/lib64/libcudnn*

Note 4 point, I did little bit modification. I just did
export LD_LIBRARY_PATH=/usr/local/cuda-10.0/lib64

Install anaconda(msb not installed it was there earlier)
Download anaconda 3.7 version for linux from https://www.anaconda.com/distribution/#download-section

make it executable
run
to deactivate default base activattion do
conda config --set auto_activate_base false

Install pycharm

run
```
sudo snap install pycharm-community --classic
```
took long time!

Install vscode

run
```
sudo snap install vscode --classic
```

Install thunderbird calender extension
run
```
sudo apt install xul-ext-lightning
```
restart thunderbird

Install synaptic
run
sudo apt install synaptic

Install opencv3.2
Open synatptic and search for opencv
Select following packages
libopencv-calib3d-dev
libopencv-contrib-dev
libopencv-dev
python-opencv
python3-opencv

Mark all suggested packages
Click apply and apply again

Install darknet
downlaod from https://github.com/AlexeyAB/darknet
Uncompress zip
Edit Makefile:
    GPU=1
    CUDNN=1

OPENCV=1
OPENMP=1
LIBSO=1

If we get error saying nvcc not found, modify line no 57
NVCC=/usr/local/cuda/bin/nvcc
Note provide full path of nvcc

Install ffmpeg
run
sudo apt install ffmpeg

Install meld
run
sudo apt install meld

Install gparted
run
sudo apt install gparted

Install buku
run
sudo apt install buku

Install kazam
run
sudo apt install kazam

NOTE: videos recorded using Kazam wont play in Windows media player. To convert to play in Windows media player see below link
https://jcalcote.wordpress.com/2017/06/18/why-wont-my-mp4-play-on-windows/
and command is

ffmpeg -i INPUT.mp4 -vf yadif -c:v libx264 -crf 23 -pix_fmt yuv420p OUTPUT.mp4

Install gimp
run
sudo apt install gimp

Install vlc
run
sudo apt install vlc

Install libre office base
run
sudo apt install libreoffice-base

Install git
run
sudo apt install git

Install chrome
download chrome deb from https://www.google.com/chrome/browser/desktop/index.html
double click
click install in open window
provide password if asked

Install Skype
downlaod from https://www.skype.com/en/get-skype/
double click
click install in open window
provide password if asked

Install Zoom
downlaod from https://zoom.us/download?os=linux (provide appropriate detials)
double click
click install in open window
provide password if asked

Install FileZilla
Use software center to install

Install mysql-server and configure
See link https://vitux.com/how-to-install-and-configure-mysql-in-ubuntu-18-04-lts/
sudo apt install mysql-server

Make security configurations by running the included security script

```
sudo mysql_secure_installation   (msb not done)
```

Configuring Root to use MySQL shell

```
sudo mysql
SELECT user,authentication_string,plugin,host FROM mysql.user;
ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'password';
FLUSH PRIVILEGES;
```

Install nodejs (hence npm)
See link https://joshtronic.com/2018/05/08/how-to-install-nodejs-10-on-ubuntu-1804-lts/

```
sudo apt install curl
curl -sL https://deb.nodesource.com/setup_10.x | sudo -E bash -
sudo apt install nodejs
```

NOTE: By installing nodejs, it install npm also.

VA packages requirements(msb not done)

opencv-python
opencv-contrib-python
scipy
python-levenshtein
sklearn

mysql-connector

FR package requirements(msb not done)

kivy (installed)
pygame
opencv-python (installed)
opencv-contrib-python (installed)
imutils (pip install imutils)
mysql-connector (installed)
tensorflow-gpu==1.14
scipy(already there)
scikit-learn==0.21.3
dlib (pip install dlib)
mxnet-cu100(pip install mxnet-cu100)
magic (pip install python-magic)
pyAesCrypt (pip install pyAesCrypt)

dlib needs cmake, so install cmake using
sudo apt install cmake

Also scikit-learn packages has to be 0.21.3 (initially I installed 0.22, FR algorithm did not work, it gave SVM error)

MSB(edit) for mysql -u root -p to work

1. use mysql
2. select user,host,authentication_string,plugin from user;
3. set global validate_password_policy='LOW'
4. alter user 'root'@'localhost' identified with 'mysql_native_password' by 'vijnalabs'

1.When I try to add virtualenv as an interpreter in PyCharm Community 2018.1.2 in Kubuntu 18.04 I get the following error:
ModuleNotFoundError: No module named 'distutils.core'

```
sudo apt-get install python3-distutils
```

2.
```
import mysql.connector
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
ImportError: No module named mysql.connector
```

```
pip install mysql-connector-python
```