System: Raspberry Pi 4

install opencv 4 on raspberry pi 4

1. **First let's prepare the system for the installation.**

```
sudo apt-get -y purge wolfram-engine
sudo apt-get -y purge libreoffice*
sudo apt-get -y clean
sudo apt-get -y autoremove
```

2. **Update Packages**

```
sudo apt -y update
```

3. **Install OS Libraries**

```
sudo apt-get -y remove x264 libx264-dev

## Install dependencies
sudo apt-get -y install build-essential checkinstall cmake pkg-config yasm
sudo apt-get -y install git gfortran
sudo apt-get -y install libjpeg8-dev libjasper-dev libpng12-dev

sudo apt-get -y install libtiff5-dev

sudo apt-get -y install libtiff-dev

sudo apt-get -y install libavcodec-dev libavformat-dev libswscale-dev
libdc1394-22-dev
sudo apt-get -y install libxine2-dev libv4l-dev
cd /usr/include/linux
sudo ln -s -f ../libv4l1-videodev.h videodev.h
cd $cwd

sudo apt-get -y install libgstreamer0.10-dev libgstreamer-plugins-base0.10-dev
sudo apt-get -y install libgtk2.0-dev libtbb-dev qt5-default
sudo apt-get -y install libatlas-base-dev
```

```
sudo apt-get -y install libmp3lame-dev libtheora-dev
sudo apt-get -y install libvorbis-dev libxvidcore-dev libx264-dev
sudo apt-get -y install libopencore-amrnb-dev libopencore-amrwb-dev
sudo apt-get -y install libavresample-dev
sudo apt-get -y install x264 v4l-utils

# Optional dependencies
sudo apt-get -y install libprotobuf-dev protobuf-compiler
sudo apt-get -y install libgoogle-glog-dev libgflags-dev
sudo apt-get -y install libgphoto2-dev libeigen3-dev libhdf5-dev doxygen
```

4. **Download opencv and opencv_contrib**

```
git clone https://github.com/opencv/opencv.git
cd opencv
git checkout 4.2.0
cd ..

git clone https://github.com/opencv/opencv_contrib.git
cd opencv_contrib
git checkout 4.2.0
cd ..
```

5. **Compile and install OpenCV with contrib modules**

```
cd opencv
mkdir build
cd build

cmake -D CMAKE_BUILD_TYPE=RELEASE \
        -D INSTALL_PYTHON_EXAMPLES=ON \
        -D INSTALL_C_EXAMPLES=OFF \
        -D PYTHON_EXECUTABLE=$(which python3) \
        -D BUILD_opencv_python2=OFF \
        -D CMAKE_INSTALL_PREFIX=$(python3 -c “import sys;
print(sys.prefix)”) \
        -D PYTHON3_EXECUTABLE=$(which python3) \
        -D PYTHON3_INCLUDE_DIR=$(python3 -c “from distutils.sysconfig
import get_python_inc; print(get_python_inc())”) \
```

```
        -D PYTHON3_PACKAGES_PATH=$(python3 -c “from
distutils.sysconfig import get_python_lib; print(get_python_lib())”) \
        -D WITH_GSTREAMER=ON \
        -D WITH_QT=ON
        -D BUILD_EXAMPLES=ON ..

make -j
sudo make install
```

“make -j ”an error may occur here, so you can write like this: make -j2

the following error may occur:

carotene: Replace ipcp-unit-growth with ipa-cp-unit-growth on gcc >= 10

then: in the details of the error find the file and make a replacement

more details about the error:

https://github.com/opencv/opencv/pull/16369

https://www.reddit.com/r/raspberry_pi/comments/rmzic4/error_installing_opencv_on_raspberry_pi_3_b/

more details at:

https://learnopencv.com/install-opencv-4-on-raspberry-pi/