

Qt Development Documentation

Opencv Ubuntu setup guide:

https://docs.opencv.org/3.4.2/d7/d9f/tutorial_linux_install.html – the guide used in project.

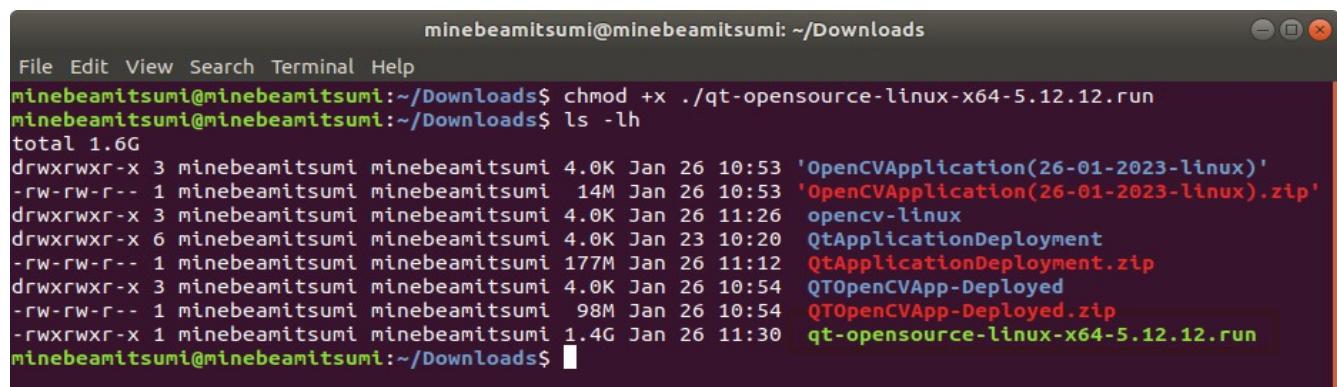
Qt Creator:

Link: <https://download.qt.io/archive/qt/5.12/5.12.12/>

Name	Last modified	Size	Metadata
↑ Parent Directory		-	
submodules/	25-Nov-2021 08:09	-	
single/	25-Nov-2021 08:08	-	
qt-opensource-windows-x86-5.12.12.exe	25-Nov-2021 08:12	3.7G	Details
qt-opensource-mac-x64-5.12.12.dmg	25-Nov-2021 08:11	2.7G	Details
qt-opensource-linux-x64-5.12.12.run	25-Nov-2021 08:10	1.3G	Details
md5sums.txt	25-Nov-2021 08:18	210	Details

After downloading **qt-opensource-linux-x64-5.12.12.run**, open terminal and run command:

chmod +x qt-opensource-linux-x64-5.12.12.run



```
minebeamitsumi@minebeamitsumi:~/Downloads
File Edit View Search Terminal Help
minebeamitsumi@minebeamitsumi:~/Downloads$ chmod +x ./qt-opensource-linux-x64-5.12.12.run
minebeamitsumi@minebeamitsumi:~/Downloads$ ls -lh
total 1.6G
drwxrwxr-x 3 minebeamitsumi minebeamitsumi 4.0K Jan 26 10:53 'OpenCVApplication(26-01-2023-linux)'
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 14M Jan 26 10:53 'OpenCVApplication(26-01-2023-linux).zip'
drwxrwxr-x 3 minebeamitsumi minebeamitsumi 4.0K Jan 26 11:26 opencv-linux
drwxrwxr-x 6 minebeamitsumi minebeamitsumi 4.0K Jan 23 10:20 QtApplicationDeployment
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 177M Jan 26 11:12 QtApplicationDeployment.zip
drwxrwxr-x 3 minebeamitsumi minebeamitsumi 4.0K Jan 26 10:54 QTOpenCVApp-Deployed
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 98M Jan 26 10:54 QTOpenCVApp-Deployed.zip
-rwxrwxr-x 1 minebeamitsumi minebeamitsumi 1.4G Jan 26 11:30 qt-opensource-linux-x64-5.12.12.run
minebeamitsumi@minebeamitsumi:~/Downloads$
```

Note: *Color green font indicates executable file.*

Link opencv to Qt Creator. Modify .pro file from your Qt Project

```
58
59 ##### include path for Linux environment #####
60 INCLUDEPATH += .
61 INCLUDEPATH += -I/usr/local/include/opencv4
62 LIBS += -L/usr/local/lib \
63     -lopencv_calib3d \
64     -lopencv_core \
65     -lopencv_features2d \
66     -lopencv_flann \
67     -lopencv_highgui \
68     -lopencv_imgproc \
69     -lopencv_ml \
70     -lopencv_objdetect \
71     -lopencv_photo \
72     -lopencv_stitching \
73     -lopencv_videoio \
74 |
```

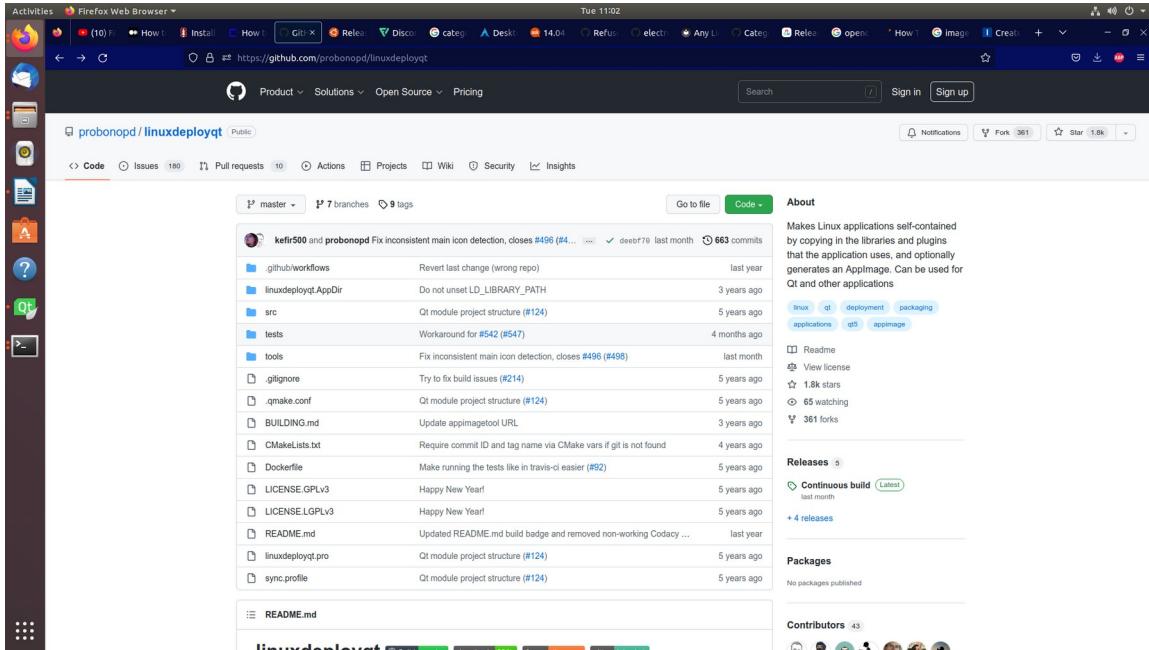
Qt Application Deployment on Linux Environment

Guide:

<https://medium.com/swlh/how-to-deploy-your-qt-applications-to-linux-operating-system-with-linuxdeployqt-3c004a43c67a>

Download `linuxdeployqt`: <https://github.com/probonopd/linuxdeployqt>

Read Documentation before doing the process.



For Ubuntu 22.04

```
minebeamisumi@minebeamisumi:~/Downloads$ ./linuxdeployqt-continuous-x86_64.AppImage /home/minebeamisumi/Desktop/QtAppDeployment/opencvtest -appimage
dlopen(): error loading libfuse.so.2

AppImages require FUSE to run.
You might still be able to extract the contents of this AppImage
if you run it with the --appimage-extract option.
See https://github.com/AppImage/AppImageKit/wiki/FUSE
for more information
minebeamisumi@minebeamisumi:~/Downloads$
```

Download FUSE: <https://github.com/AppImage/AppImageKit/wiki/FUSE>

FUSE

Vadim Peretokin edited this page 3 weeks ago · 43 revisions

AppImages require FUSE version 2 to run. [Filesystem in Userspace \(FUSE\)](#) is a system that lets non-root users mount filesystems.

Install FUSE

Many distributions have a working FUSE setup out-of-the-box. However if it is not working for you, you may need to install and configure FUSE manually.

For example, on Ubuntu (≥ 22.04):

```
sudo add-apt-repository universe
sudo apt install libfuse2
```

Warning: While `libfuse2` is OK, do not install the `fuse` package as of 22.04 or you may break your system

```
minebeamisumi@minebeamisumi: ~/Downloads $ cd ~  
minebeamisumi@minebeamisumi:~$ sudo add-apt-repository universe  
[sudo] password for minebeamisumi:  
Adding component(s) 'universe' to all repositories.  
Press [ENTER] to continue or Ctrl-c to cancel.  
Hit:1 http://ph.archive.ubuntu.com/ubuntu jammy InRelease  
Get:2 http://ph.archive.ubuntu.com/ubuntu jammy-updates InRelease [114 kB]  
Get:3 http://ph.archive.ubuntu.com/ubuntu jammy-backports InRelease [99.8 kB]  
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]  
Get:5 http://ph.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [839 kB]  
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadat a [41.4 kB]  
Get:7 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Met adata [13.2 kB]  
Get:8 http://ph.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [418 kB]  
Get:9 http://ph.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [186 kB]  
Get:10 http://ph.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metad ata [101 kB]  
Get:11 http://ph.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metada ta [12.3 kB]  
Get:12 http://ph.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [793 kB]  
Get:13 http://ph.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [566 kB]  
Get:14 http://ph.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [139 kB]  
Get:15 http://ph.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 DEP-11 M etadata [265 kB]  
Get:16 http://ph.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Me tadata [14.9 kB]  
Get:17 http://ph.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 DEP-11 Metadata [940 B]  
Get:18 http://ph.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 DEP-11 Metadata [12.5 kB]  
Fetched 3,726 kB in 4s (891 kB/s)  
Reading package lists... Done  
-----  
minebeamisumi@minebeamisumi:~/Downloads
```

```
minebeamisumi@minebeamisumi: ~/Downloads $ sudo apt install libfuse2  
Reading package lists... done  
minebeamisumi@minebeamisumi:~$ sudo apt install libfuse2  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following NEW packages will be installed:  
  libfuse2  
0 upgraded, 1 newly installed, 0 to remove and 7 not upgraded.  
Need to get 90.3 kB of archives.  
After this operation, 330 kB of additional disk space will be used.  
Get:1 http://ph.archive.ubuntu.com/ubuntu jammy/universe amd64 libfuse2 amd64 2. 9.9-Subuntu3 [90.3 kB]  
Fetched 90.3 kB in 0s (388 kB/s)  
Selecting previously unselected package libfuse2:amd64.  
(Reading database ... 221058 files and directories currently installed.)  
Preparing to unpack .../libfuse2_2.9.9-5subuntu3_amd64.deb ...  
Unpacking libfuse2:amd64 (2.9.9-5subuntu3) ...  
Setting up libfuse2:amd64 (2.9.9-5subuntu3) ...  
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...  
-----  
minebeamisumi@minebeamisumi:~/Downloads
```

Due to warning note and compatibility, the deployment of the app is decided to deploy on the lower version of Ubuntu since the deployment on lower version last time is successfull.

UBUNTU 18.04

Error Path in deployment:

```
minebeamitsumi@minebeamitsumi:~/Desktop$ ./linuxdeployqt-continuous-x86_64.AppImage /home/minebeamitsumi/Desktop/DEPLOY/opencvtest -appimage
linuxdeployqt (commit deebf70), build 38 built on 2022-12-15 18:06:02 UTC
Not using FHS-like mode
app-binary: "/home/minebeamitsumi/Desktop/DEPLOY/opencvtest"
appDirPath: "/home/minebeamitsumi/Desktop/DEPLOY"
relativeBinPath: "opencvtest"
Keeping existing AppRun
ERROR: ldd outputLine: "/home/minebeamitsumi/Desktop/DEPLOY/opencvtest: /usr/lib/x86_64-linux-gnu/libQt5Core.so.5: version `Qt_5.12' not found (required by /home/minebeamitsumi/Desktop/DEPLOY/opencvtest)"
ERROR: for binary: "/home/minebeamitsumi/Desktop/DEPLOY/opencvtest"
ERROR: Please ensure that all libraries can be found by ldd. Aborting.
minebeamitsumi@minebeamitsumi:~/Desktop$ export LD_LIBRARY_PATH=/usr/lib/x86_64-linux-gnu
```

Run command:

My custom path (export PATH=/home/minebeamitsumi/Qt5.12.12/5.12.12/gcc_64/bin:\$PATH)

OUTPUT:

```
minebeamitsumi@minebeamitsumi:~/Desktop$ ./linuxdeployqt-continuous-x86_64.AppImage
/home/minebeamitsumi/Desktop/DEPLOY/opencvtest -appimage
linuxdeployqt (commit deebf70), build 38 built on 2022-12-15 18:06:02 UTC
Not using FHS-like mode
app-binary: "/home/minebeamitsumi/Desktop/DEPLOY/opencvtest"
appDirPath: "/home/minebeamitsumi/Desktop/DEPLOY"
relativeBinPath: "opencvtest"
Keeping existing AppRun
WARNING: "/home/minebeamitsumi/Desktop/DEPLOY/qt.conf" already exists, will not overwrite.
ERROR: lconvert not found at "/tmp/.mount_linuxdjOKRUX/usr/bin/lconvert"
ERROR: Failed to copy translations
appimagetool, continuous build (commit 8bbf694), build <local dev build> built on 2020-12-31 11:48:33 UTC
fatal: not a git repository (or any of the parent directories): .git
Failed to run 'git rev-parse --short HEAD: Child process exited with code 128 (code 128)
Desktop file: /home/minebeamitsumi/Desktop/DEPLOY/desktop.desktop
Name: OpenCVApplication
Icon: icon
Exec: OpenCVApp
Comment: Qt Application Deployment
Type: Application
Categories: Development;
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Quick.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libdatrie.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libx265.so.146 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/liborc-0.4.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libpangoft2-1.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Network.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopenjp2.so.7 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libswresample.so.2 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgme.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libzvbi.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libvorbisfile.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libjpeg.so.8 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopencv_flann.so.407 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Widgets.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libtheoraadec.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libxcb-xkb.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgsm.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libtasn1.so.6 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libxml2.so.2 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libvdpa.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libwavpack.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libffi.so.6 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libpangocairo-1.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libhogweed.so.4 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libshine.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopencv_core.so.407 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libXau.so.6 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/librsvg-2.so.2 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libavutil.so.55 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libxcb-render.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libX11-xcb.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libXrender.so.1 used for determining architecture x86_64
```

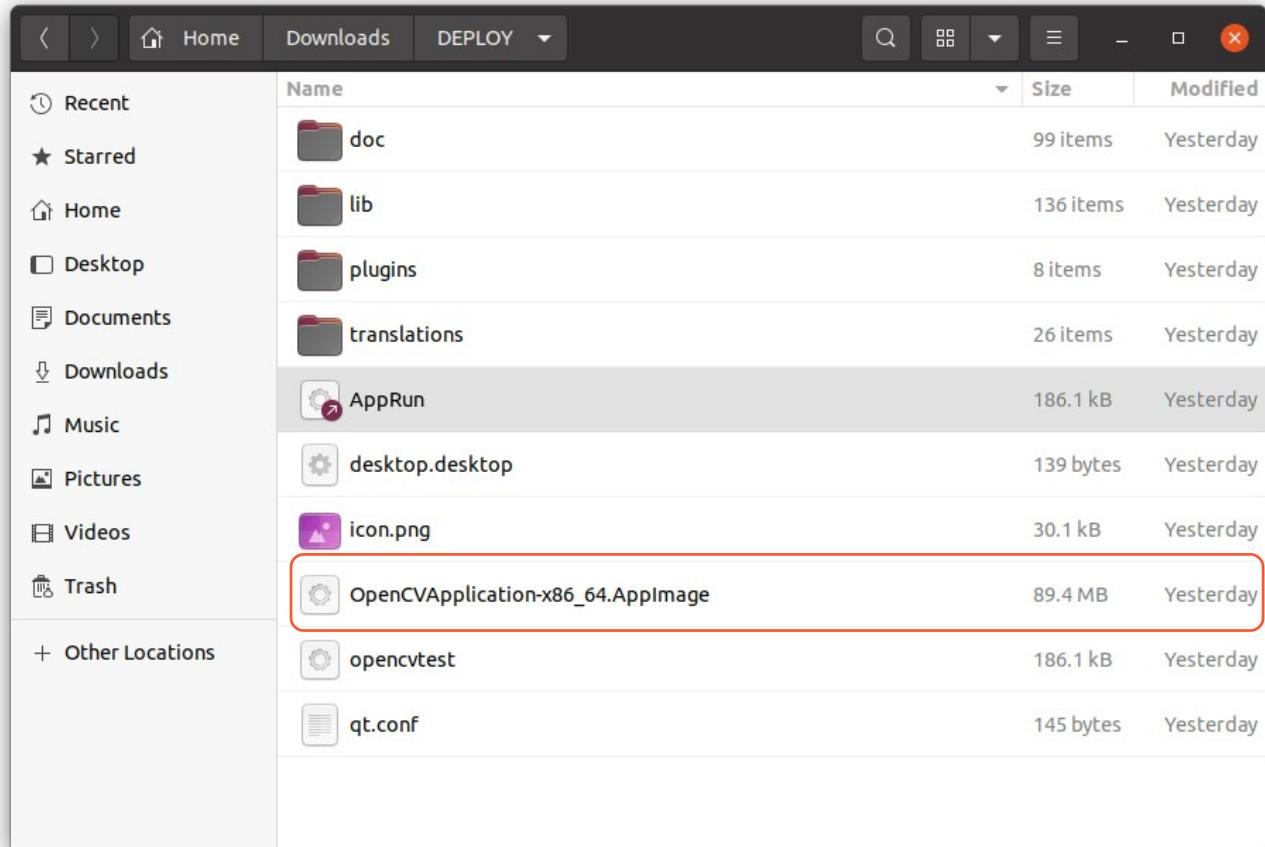
/home/minebeamitsumi/Desktop/DEPLOY/lib/libglib-2.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Core.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libXfixes.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libtheoraenc.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libnuma.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopenmpt.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopencv_features2d.so.407 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgobject-2.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libtwolame.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopus.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Svg.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgthread-2.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgio-2.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libicudata.so.56 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libnettle.so.6 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Multimedia.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libsystemd.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgraphite2.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgststreamer-1.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgnutls.so.30 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libFLAC.so.8 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgstrtplib-1.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libxcb-glx.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libsndfile.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgmodule-2.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libwrap.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libvpx.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libvorbis.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libmpg123.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libicuuc.so.60 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libswscale.so.4 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5XcbQpa.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/liblz4.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libselinux.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libicuuc.so.56 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libgstvideo-1.0.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libsoxr.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libunistring.so.2 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libwebp.so.6 used for determining architecture x86_64
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/home/minebeamitsumi/Desktop/DEPLOY/lib/libcroco-0.6.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libpango-1.0.so.0 used for determining architecture x86_64
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/home/minebeamitsumi/Desktop/DEPLOY/lib/libxkbcommon-x11.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libssh-gcrypt.so.4 used for determining architecture x86_64
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/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Gui.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libicudata.so.60 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libpcre.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libQt5Qml.so.5 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libcrystalhd.so.3 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libxcb-shm.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libavcodec.so.57 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libasyncns.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libopencv_videoio.so.407 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libpng16.so.16 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libogg.so.0 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libomp.so.1 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/lib/libva.so.2 used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/opencvtest used for determining architecture x86_64
/home/minebeamitsumi/Desktop/DEPLOY/OpenCVApplication-x86_64.AppImage used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/iconengines/libqsvgicon.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/platforms/libqxcb.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/mediaservice/libgstmediacapture.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/mediaservice/libgstaudiodecoder.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/mediaservice/libgstmediaplayer.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/mediaservice/libgstcamerabin.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/bearer/libqnmbearer.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/bearer/libqgenericbearer.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/bearer/libqconnmanbearer.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqtga.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqtiff.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqwbmp.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqico.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqsvg.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqwebp.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqicns.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqgif.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/imageformats/libqjpeg.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/platforminputcontexts/libcomposeplatforminputcontextplugin.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/platforminputcontexts/libqtvirtualkeyboardplugin.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/platforminputcontexts/libibusplatforminputcontextplugin.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins xcbglintegrations/libqxcb-glx-integration.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins xcbglintegrations/libqxcb-egl-integration.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/audio/libqtaudio_alsa.so used for determining architecture x86_64
/home/minebeamitsumi/Desktop/plugins/audio/libqtmedia_pulse.so used for determining architecture x86_64
Using architecture x86_64
App name for filename: OpenCVApplication
/home/minebeamitsumi/Desktop/DEPLOY should be packaged as OpenCVApplication-x86_64.AppImage
Generating squashfs...
Size of the embedded runtime: 189632 bytes
mksquashfs commandline: /tmp/.mount_linuxdjOKRUX/usr/bin/../lib/appimagekit/mksquashfs
/home/minebeamitsumi/Desktop/DEPLOY OpenCVApplication-x86_64.AppImage -offset 189632 -comp gzip -root-owned -noappend -mkfs-time 0
Parallel mksquashfs: Using 4 processors
Creating 4.0 filesystem on OpenCVApplication-x86_64.AppImage, block size 131072.
[=====] 2631/2631 100%

Exportable Squashfs 4.0 filesystem, gzip compressed, data block size 131072
compressed data, compressed metadata, compressed fragments,

*compressed xattrs, compressed ids
duplicates are removed*
Filesystem size 173864.40 Kbytes (169.79 Mbytes)
55.73% of uncompressed filesystem size (311974.25 Kbytes)
Inode table size 10828 bytes (10.57 Kbytes)
46.87% of uncompressed inode table size (23100 bytes)
Directory table size 3946 bytes (3.85 Kbytes)
39.87% of uncompressed directory table size (9898 bytes)
Number of duplicate files found 22
Number of inodes 414
Number of files 296
Number of fragments 45
Number of symbolic links 2
Number of device nodes 0
Number of fifo nodes 0
Number of socket nodes 0
Number of directories 116
Number of ids (unique uids + gids) 1
Number of uids 1
 root (0)
Number of gids 1
 root (0)
Embedding ELF...
Marking the AppImage as executable...
Embedding MD5 digest
Success

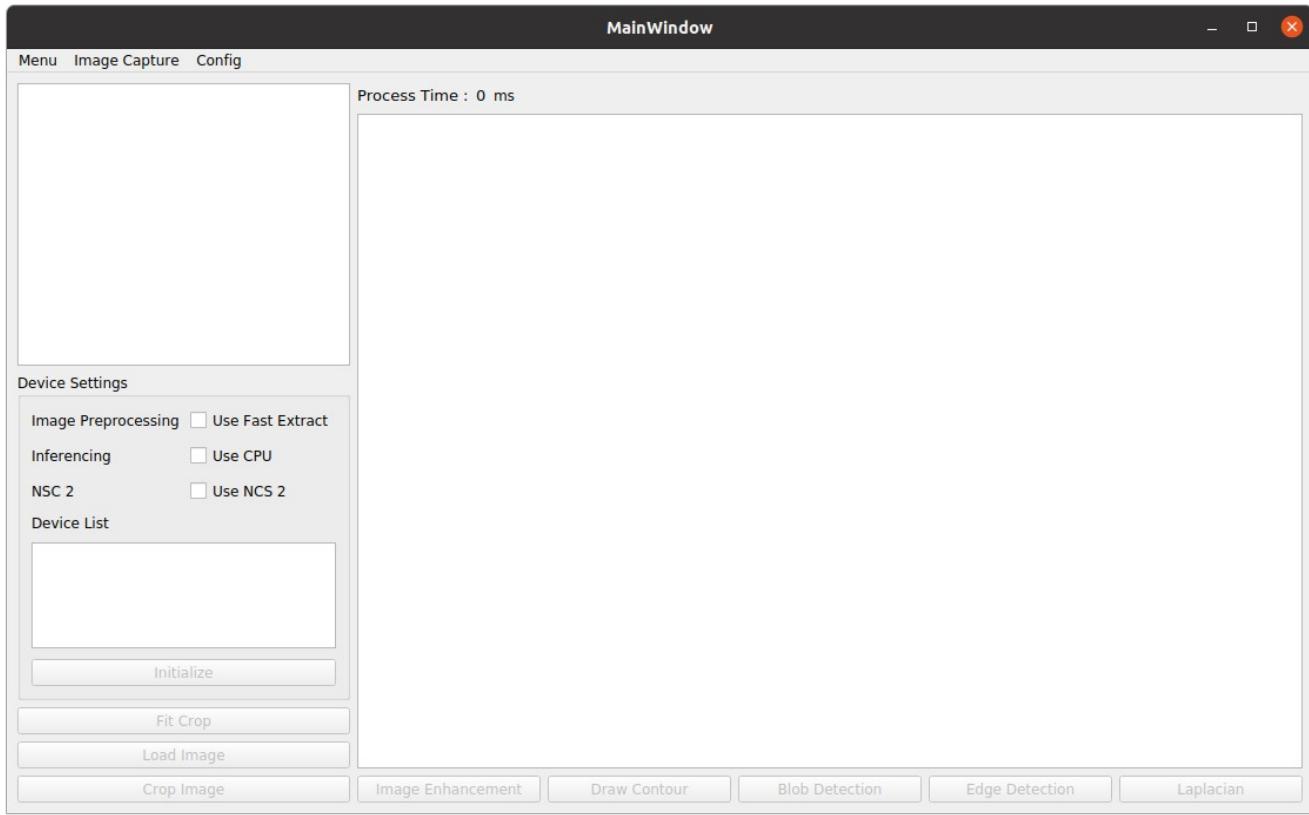
Please consider submitting your AppImage to AppImageHub, the crowd-sourced central directory of available AppImages, by opening a pull request at <https://github.com/AppImage/appimage.github.io>
[minebeamitsumi@minebeamitsumi:~/Desktop\\$](#)



The DEPLOY folder shows the AppImage Bundle

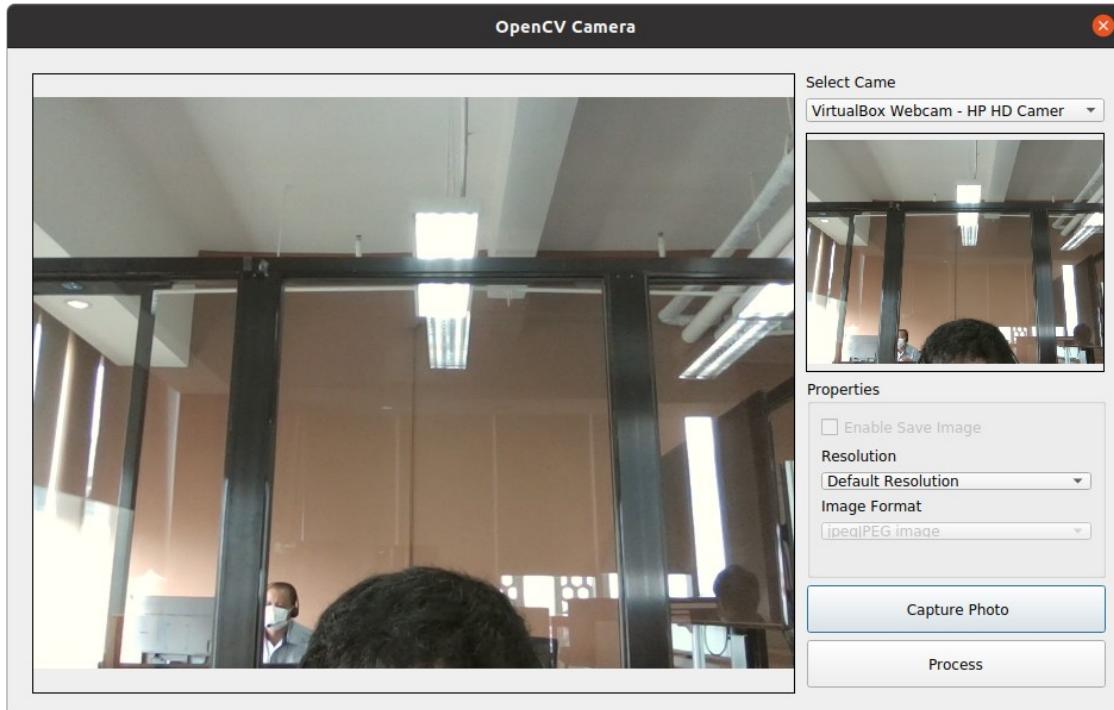
UBUNTU 20.04

MainWindow UI:



Menu:

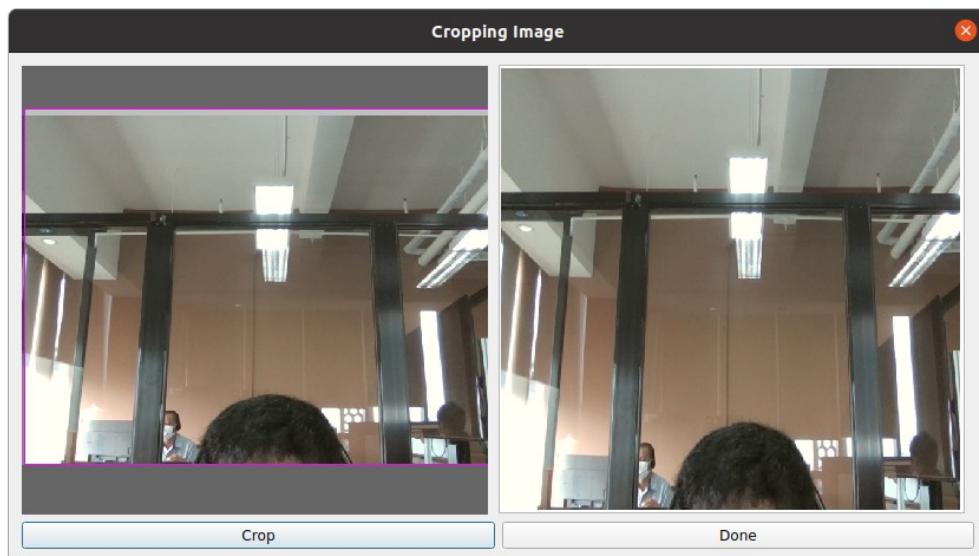
- Menu – no functions made
- Image Capture – enable camera feed UI and display camera devices



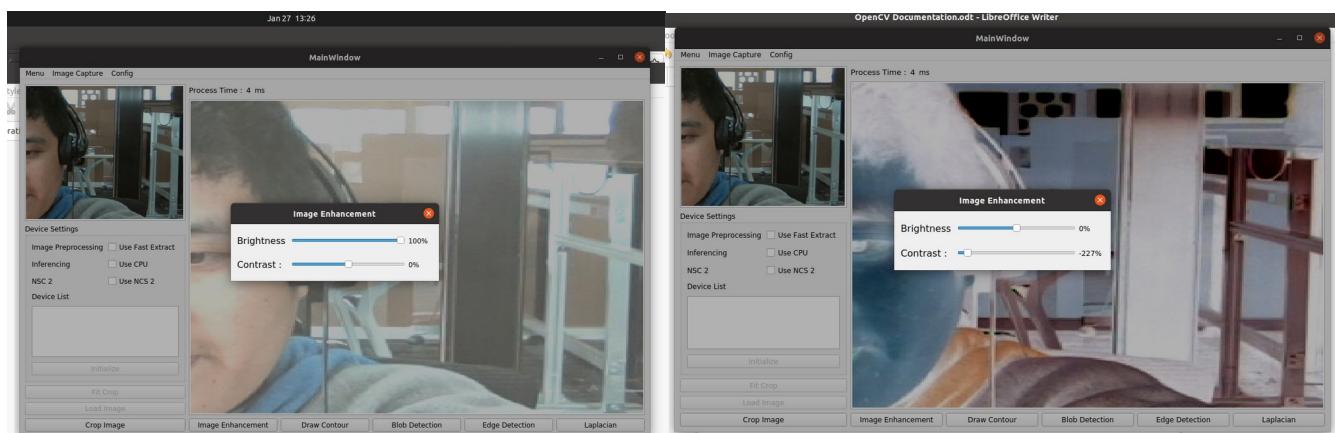
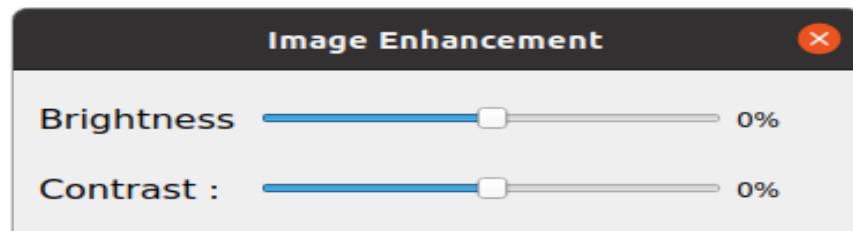
- Config – configure custom image processing (disabled functions)

Buttons:

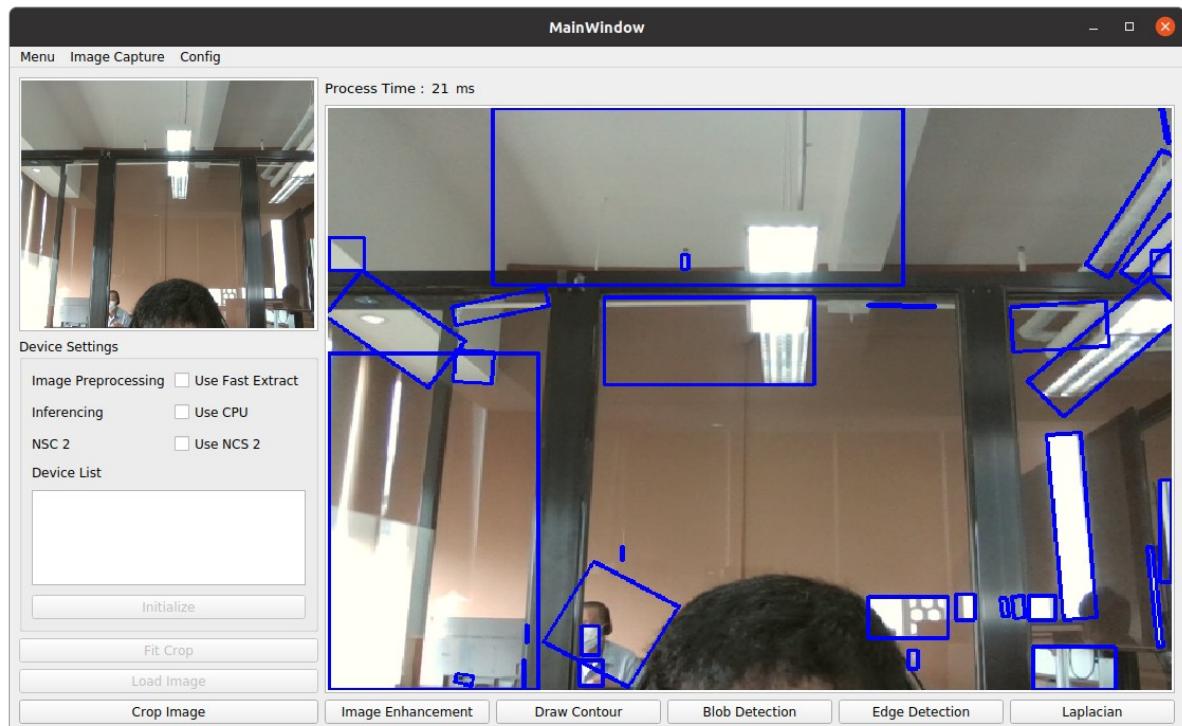
- Crop Image



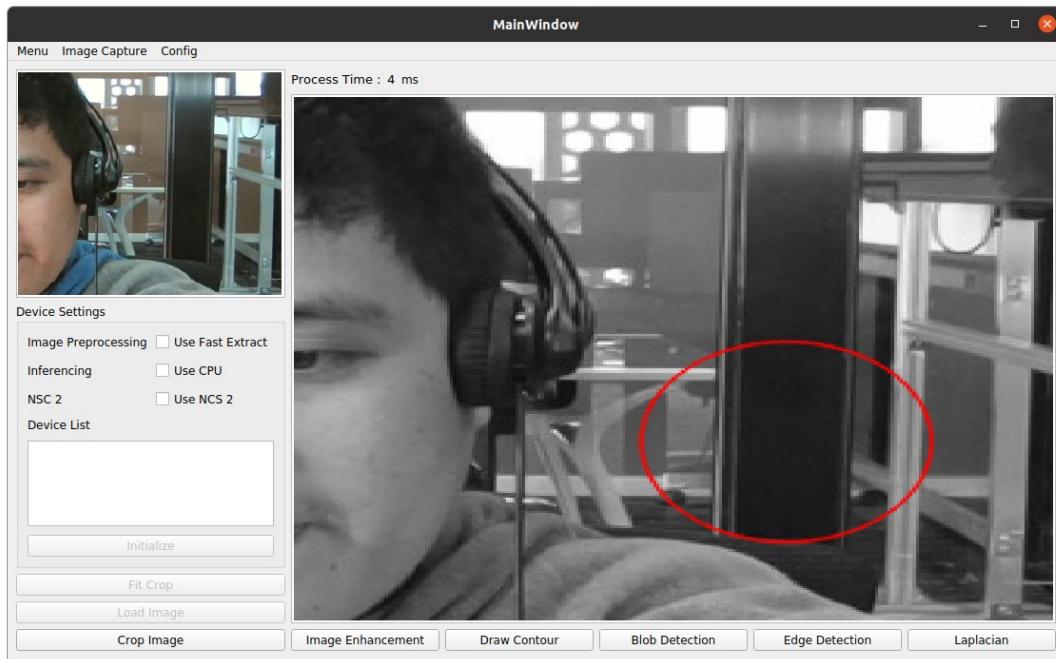
- Image Enhancement



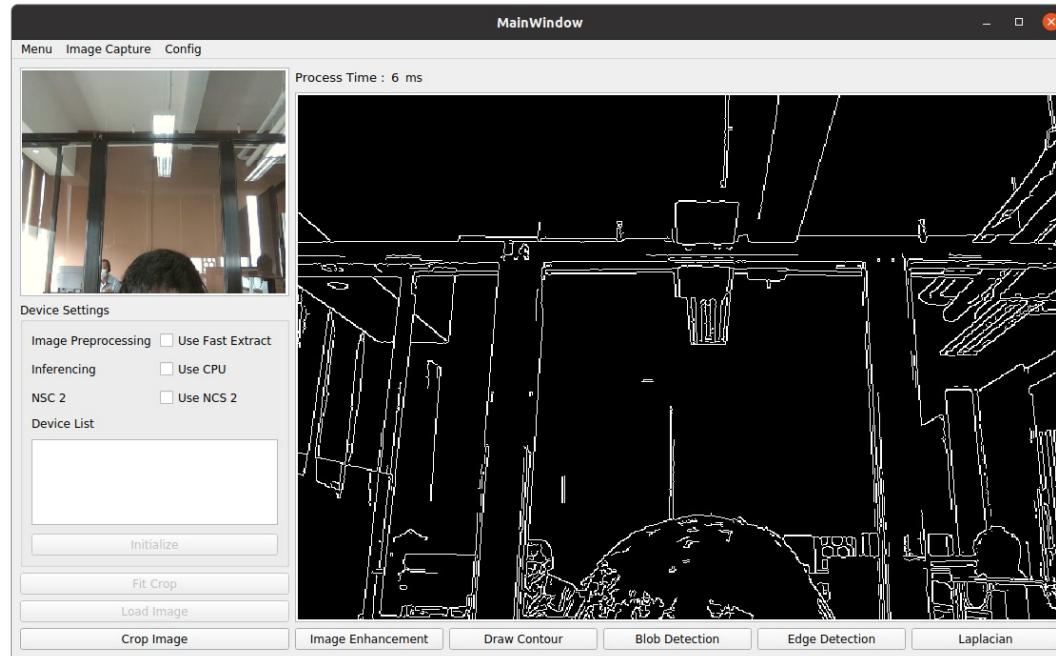
- Draw Contour



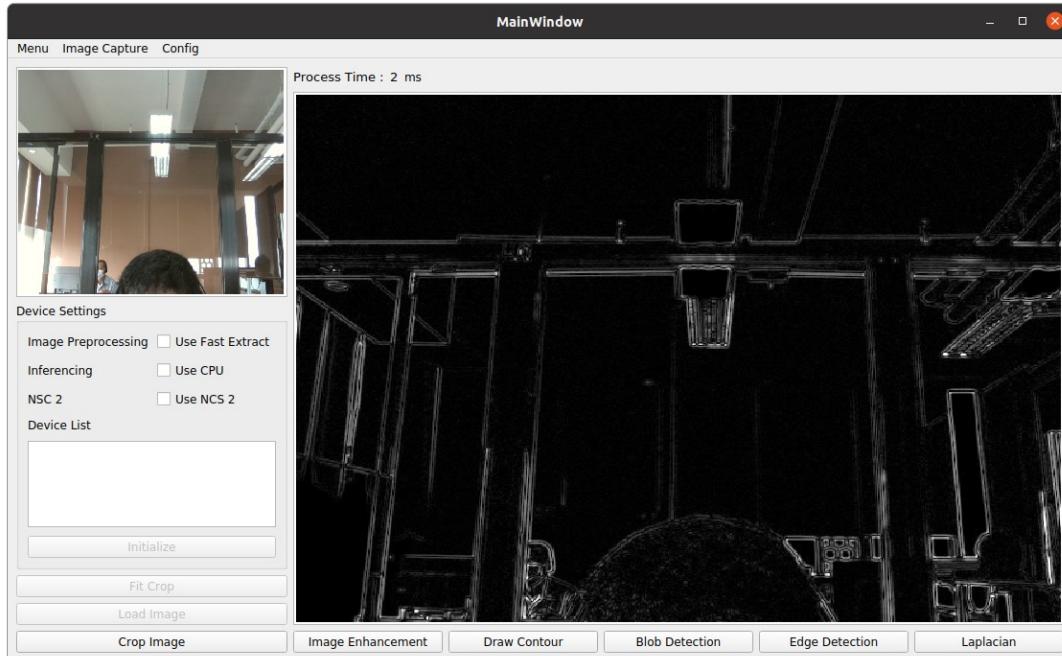
- Blob Detection



- Edge Detection



- Laplacian



Note: Upon testing the deployed app that we created using the ubuntu environment on Rasberry Pi, it turns out unrunnable since we are using AppImage Deployment that only supports on Intel processors while Rasberry Pi uses ARM Processors.

Re: How to deploy qt applications in raspberrypi

Sun Mar 29, 2020 3:33 pm

That appimage file cleary states: "-x86_64". As in Intel's 64 bit x86 processors. As used in PC's and laptops.

The Pi uses an ARM processor, like mobile phones and tablets.

Programs compiled for x86 do not run on ARM and vice versa.

Links for Qt Cross Compilation for Raspberry Pi

https://www.youtube.com/watch?v=TmtN3Rmx9Rk&t=3s&ab_channel=UlasDikme

<https://github.com/PhysicsX/QTonRaspberryPi/tree/main/QtRaspberryPi5.14.2>

Note: Follow the youtube video on how to setup the Qt Creator for Cross Compilation on Raspberry Pi.

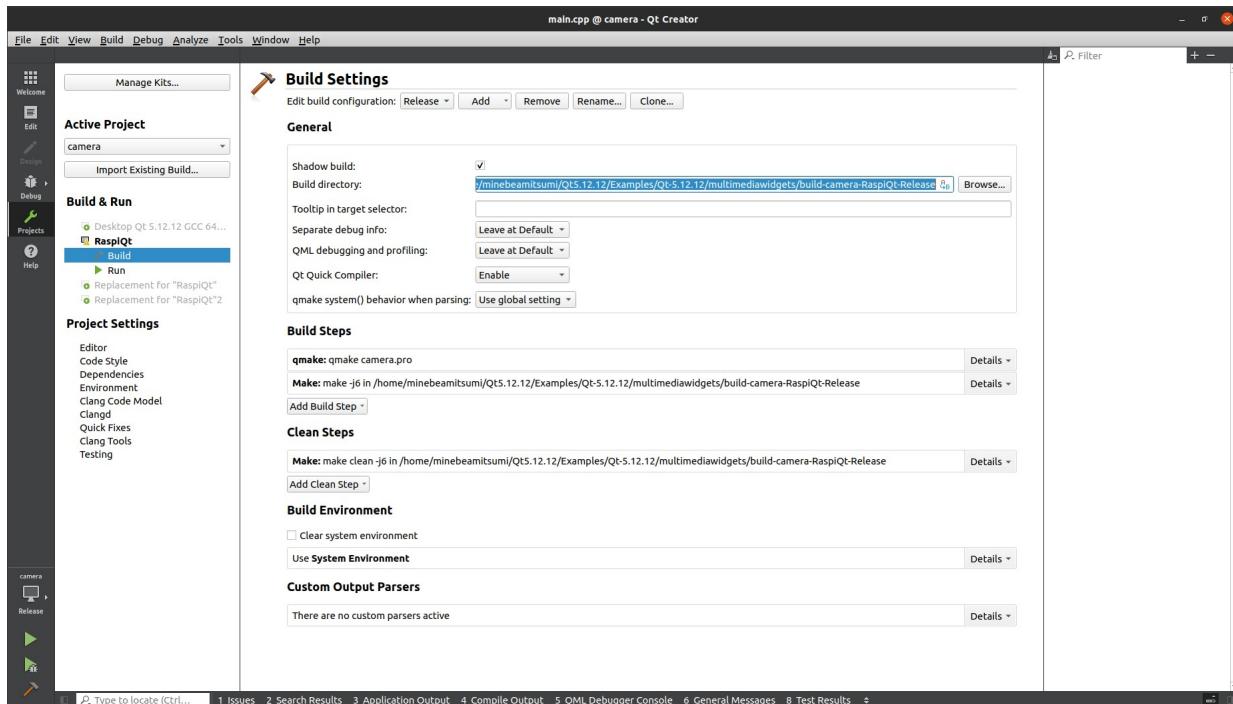
Download Links:

<https://releases.linaro.org/components/toolchain/binaries/7.5-2019.12/arm-linux-gnueabihf/>

https://download.qt.io/official_releases/qt/5.15/5.15.8/single/

Based on the links above, deployment on raspberry made possible. Using the camera app example from Qt Creator, we made a deployment on raspberry pi device.

Goto Projects: Copy build release directory



Open terminal and goto release directory

```
minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$ cd /home/minebeamitsumi/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release
minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$ ls -l
total 548K
-rwxrwxr-x 1 minebeamitsumi minebeamitsumi 118K Feb 10 14:31 camera
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 64K Feb 10 14:31 camera.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 18K Feb 10 14:31 imagesettings.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 4.0K Feb 10 14:31 main.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 177K Feb 10 14:31 Makefile
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 12K Feb 10 14:31 moc_camera.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 23K Feb 10 14:31 moc_camera.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 2.7K Feb 10 14:31 moc_imagesettings.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 6.6K Feb 10 14:31 moc_imagesettings.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 16K Feb 10 14:31 moc_prelude.h
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 2.7K Feb 10 14:31 moc_videosettings.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 6.6K Feb 10 14:31 moc_videosettings.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 11K Feb 10 14:31 qrc_camera.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 4.3K Feb 10 14:31 qrc_camera.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 12K Feb 10 14:31 ui_camera.h
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 4.4K Feb 10 14:31 ui_imagesettings.h
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 8.3K Feb 10 14:31 ui_videosettings.h
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 32K Feb 10 14:31 videettings.o
minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$
```

Copy binary file “camera” to raspberry pi device

```

minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$ cd /home/minebeamitsumi/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release
minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$ ls -lh
total 548K
-rwxrwxr-x 1 minebeamitsumi minebeamitsumi 118K Feb 10 14:31 camera
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 64K Feb 10 14:31 camera.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 18K Feb 10 14:31 imagesettings.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 4.0K Feb 10 14:31 math.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 177K Feb 10 14:31 Makefile
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 12K Feb 10 14:31 moc_camera.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 23K Feb 10 14:31 moc_camera.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 2.7K Feb 10 14:31 moc_imagesettings.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 6.0K Feb 10 14:31 moc_imagesettings.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 16K Feb 10 14:31 moc_prelude.h
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 2.7K Feb 10 14:31 moc_videasettings.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 6.0K Feb 10 14:31 moc_videasettings.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 11K Feb 10 14:31 qrc_camera.cpp
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 4.3K Feb 10 14:31 qrc_camera.o
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 12K Feb 10 14:31 ui_camera.h
-rw-rw-r-- 1 minebeamitsumi minebeamitsumi 4.4K Feb 10 14:31 ui_imagesettings.h
minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$ scp camera pi@192.168.16.61:/home/pi/Desktop
camera                                         100%   118KB 263.9KB/s   00:00
minebeamitsumi@minebeamitsumi:~/Qt5.12.12/Examples/Qt-5.12.12/multimediawidgets/build-camera-RaspiQt-Release$ 

```

Check raspberry pi device “ssh [pi@192.168.61.16](ssh://pi@192.168.61.16)” via host terminal.

```

pi@raspberrypi: ~
minebeamitsumi@minebeamitsumi:~$ 
minebeamitsumi@minebeamitsumi:~$ ssh pi@192.168.16.61
Linux raspberrypi 5.15.92-v7l+ #1627 SMP Mon Feb 6 12:32:55 GMT 2023 armv7l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

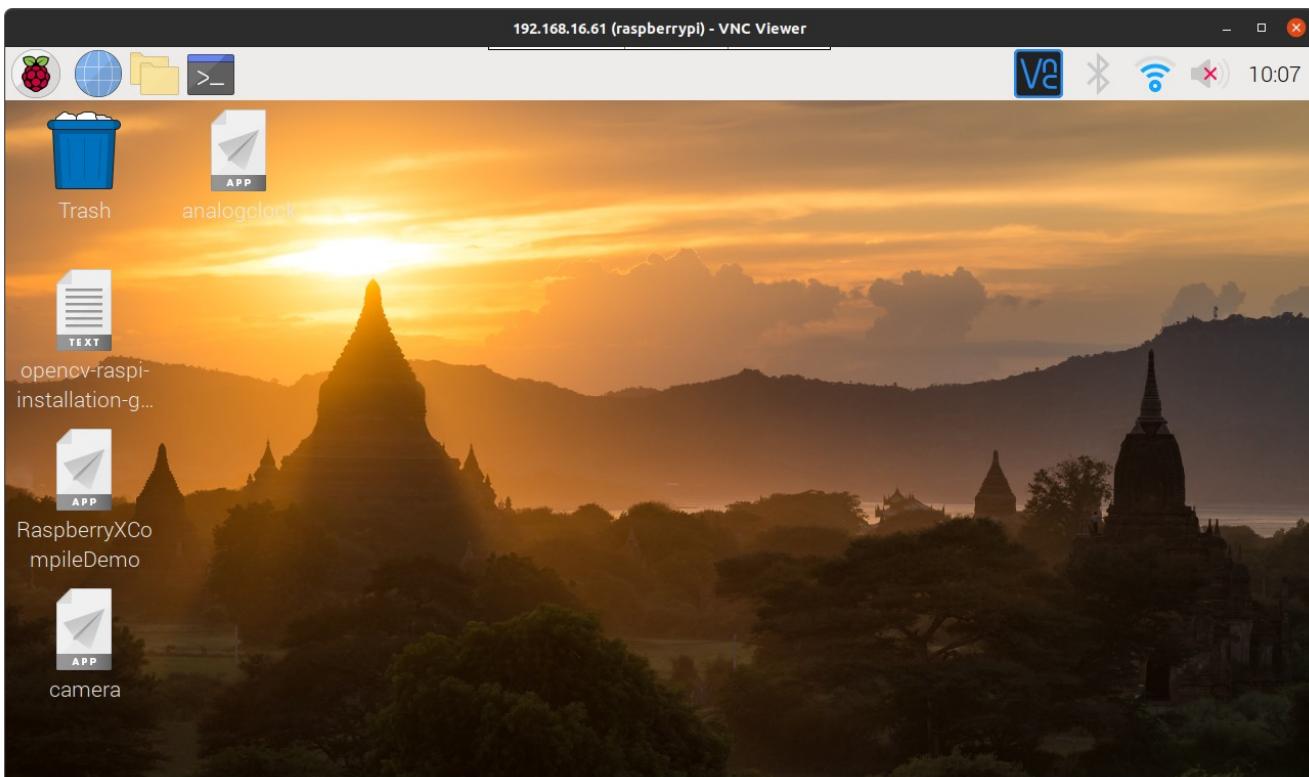
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Mon Feb 13 08:59:35 2023 from 192.168.16.53

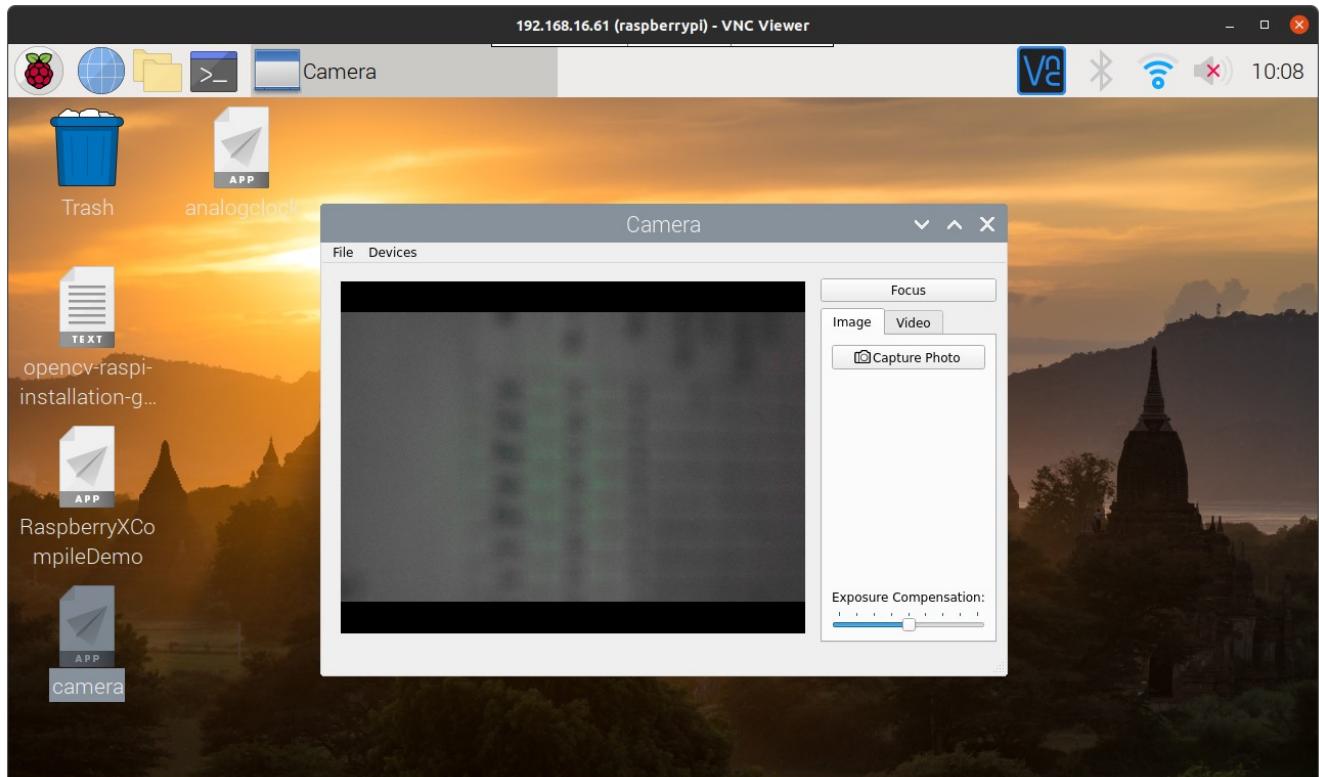
SSH is enabled and the default password for the 'pi' user has not been changed.
This is a security risk - please login as the 'pi' user and type 'passwd' to set a new password.

pi@raspberrypi:~ $ ls -lh /home/pi/Desktop
total 176K
-rwxr-xr-x 1 pi pi 28K Feb 10 14:37 analogclock
-rwxr-xr-x 1 pi pi 118K Feb 13 09:40 camera
-rw-r--r-- 1 pi pi 135 Feb 2 09:55 opencv-raspi-installation-guide
-rwxr-xr-x 1 pi pi 23K Feb 10 14:27 RaspberryXCompileDemo
pi@raspberrypi:~ $ 

```

As we can see, the binary file camera copied on raspberry device.
Checking binary file execution. Open Raspberry Pi device via VNC.



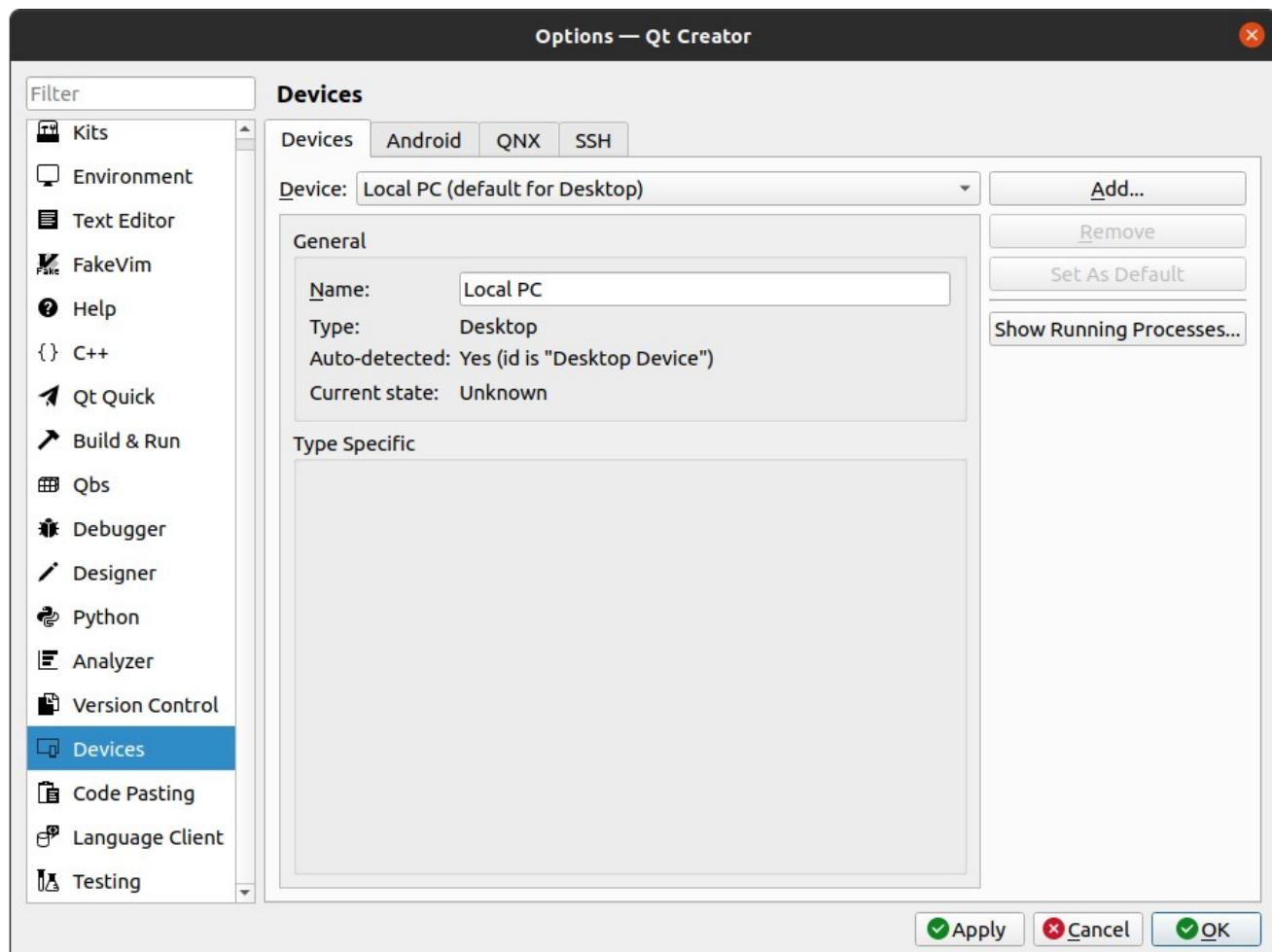


Final result of Cross Compilation on Raspberry Pi is successful.

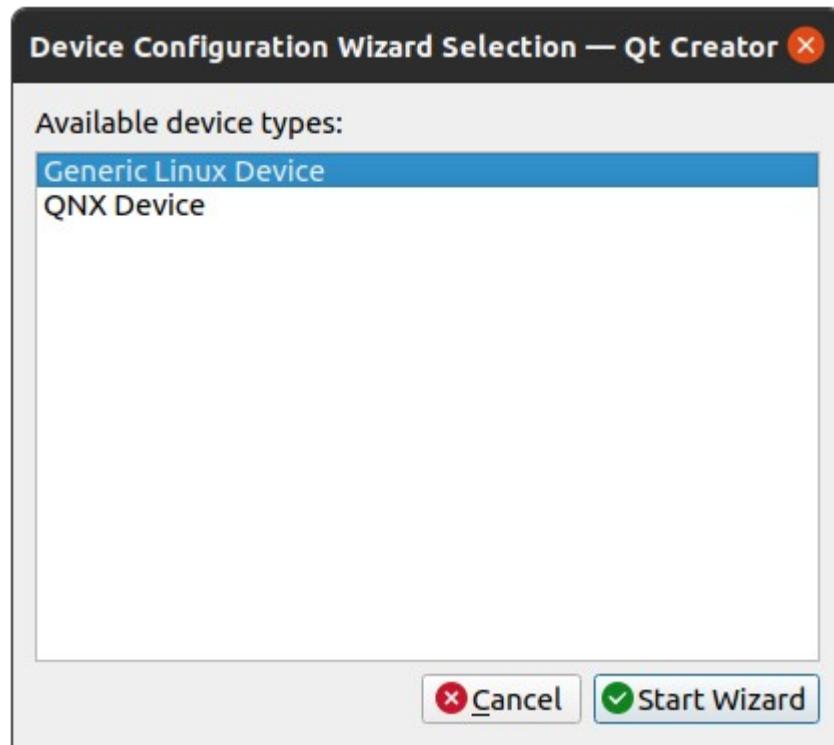
After running examples from Qt creator, the OpenCVApplication that created must also deploy on Raspberry pi.

Setting Device for Raspberry Pi

Open Qt Creator -> Tools -> Option -> Devices



Click Add -> Select “Generic Linux Device” -> Click “Start Wizard”



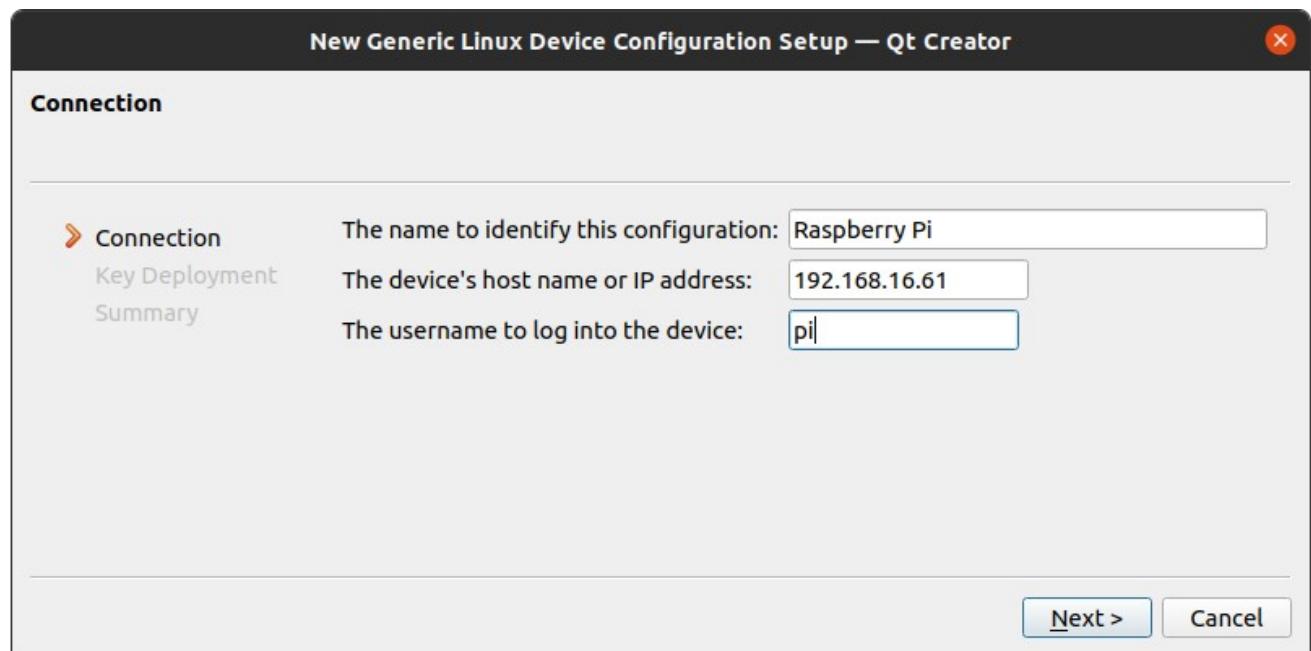
Connection:

Configuration: Raspberry Pi

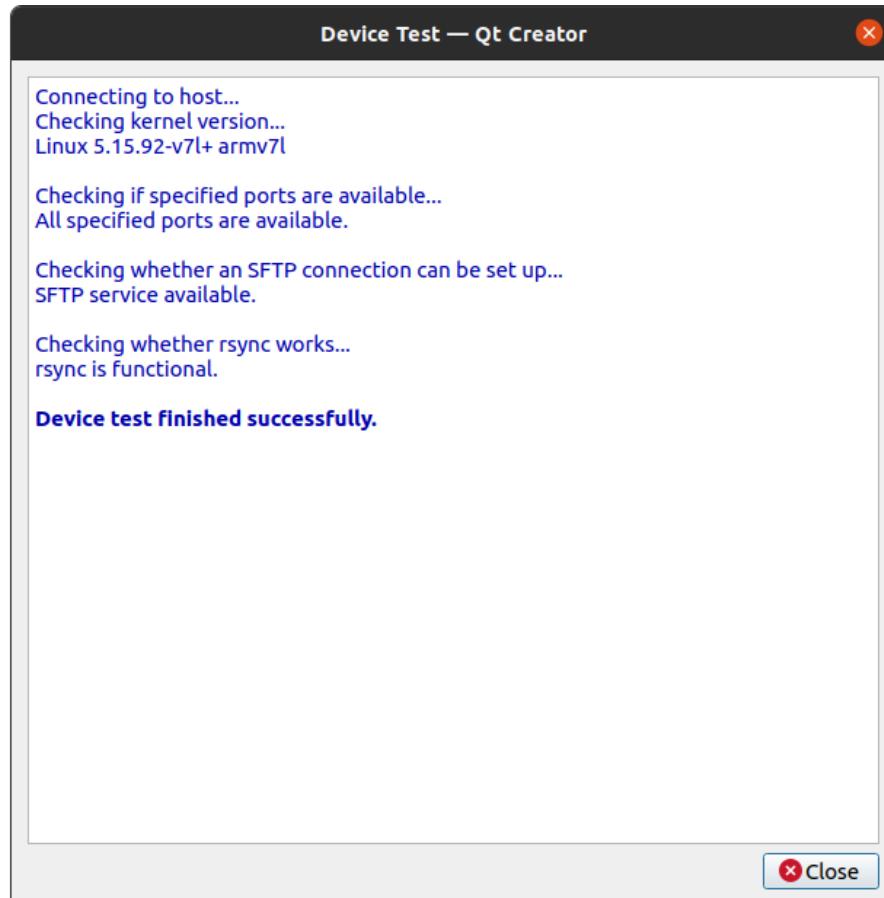
IP Address: 192.168.16.61

Username into the device: pi

Click Next ->

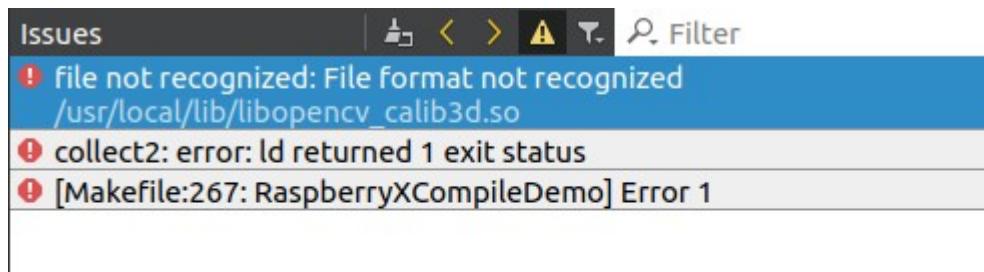


Establishing Connection Success on Raspberry Pi device:

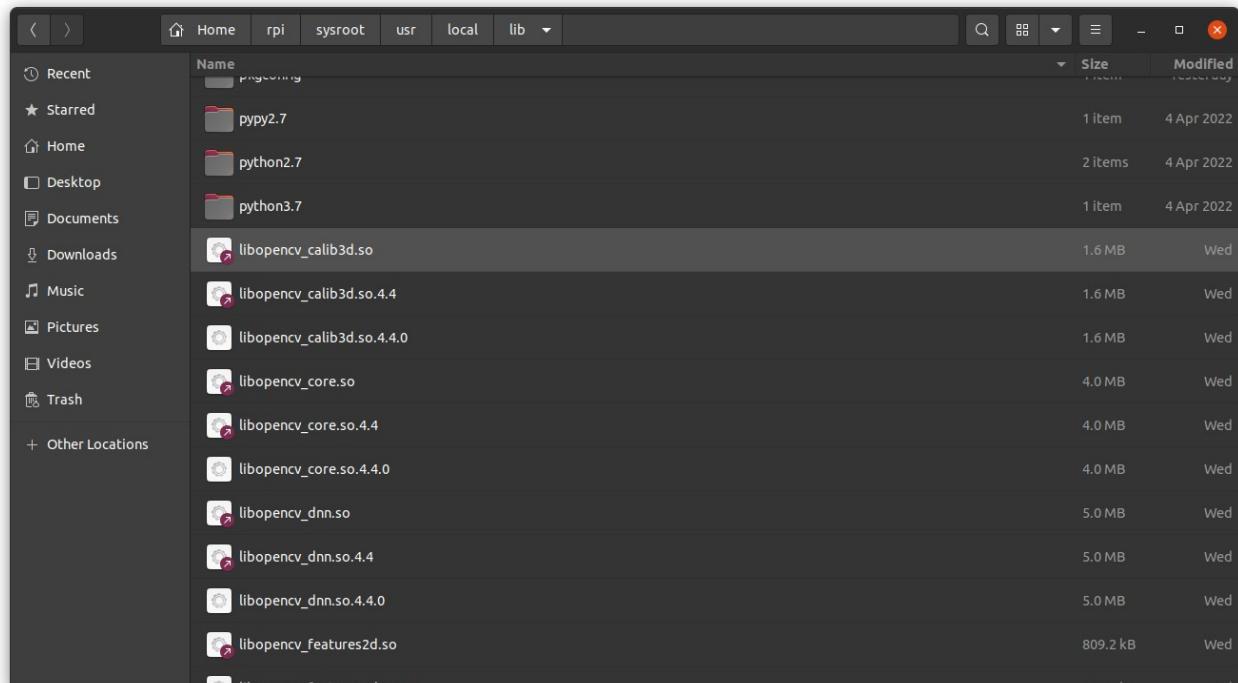


For OpenCV Development on Raspberry Pi

Note: After building OpenCV ARM compiler for Raspberry Pi device you encounter this kind of error



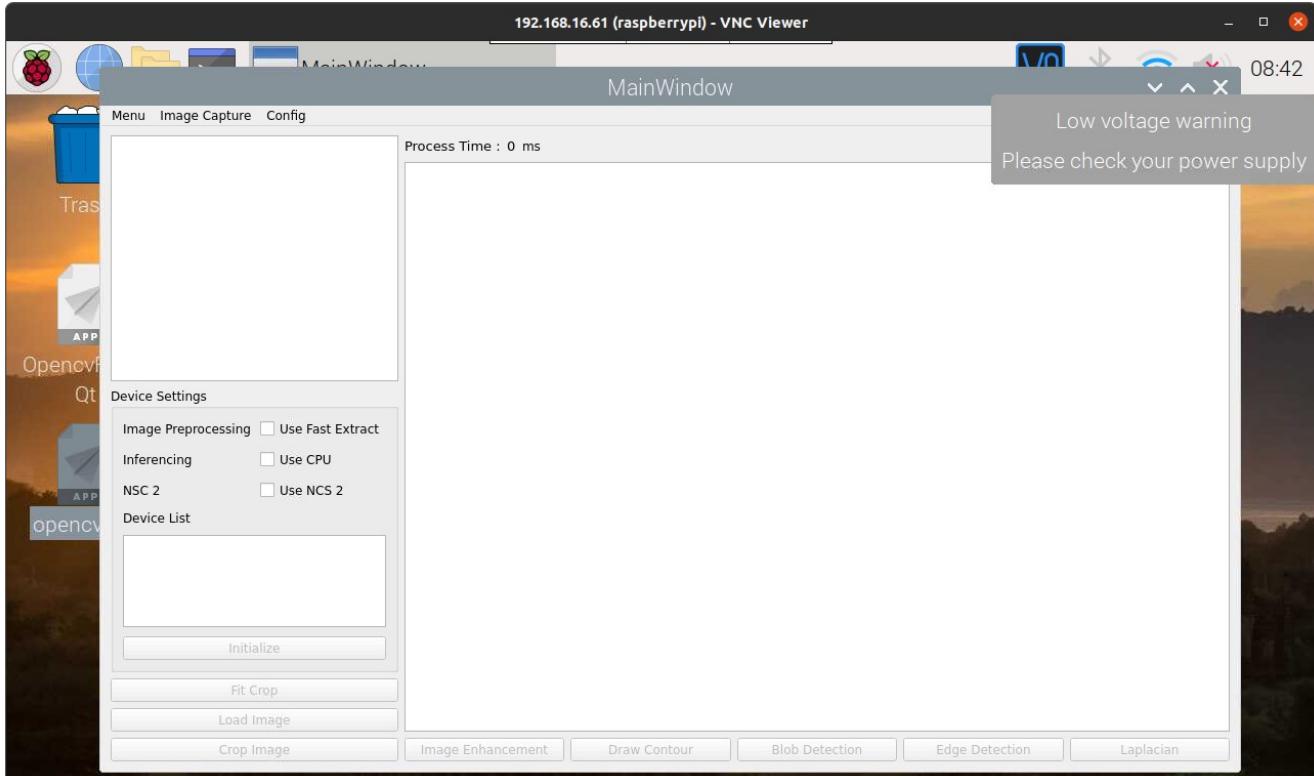
make sure to link properly the .so library folder



For complete Raspberry Pi Cross Compilation steps. Please refer to this link
<https://github.com/manfredipist/RPi3BPlusQtOpenCV>
same as my setup.

Using VNC app Using USB2.0 Micro Camera

MainWindow



Camera feed

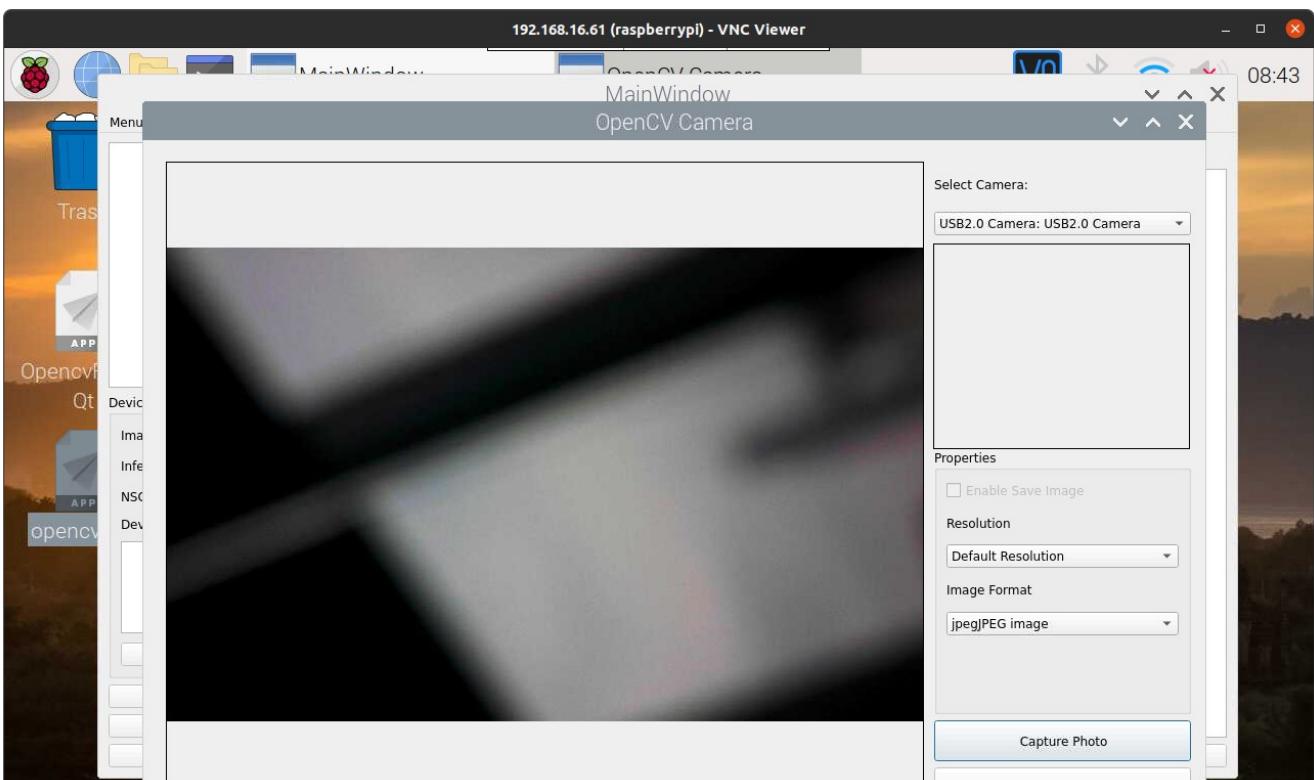
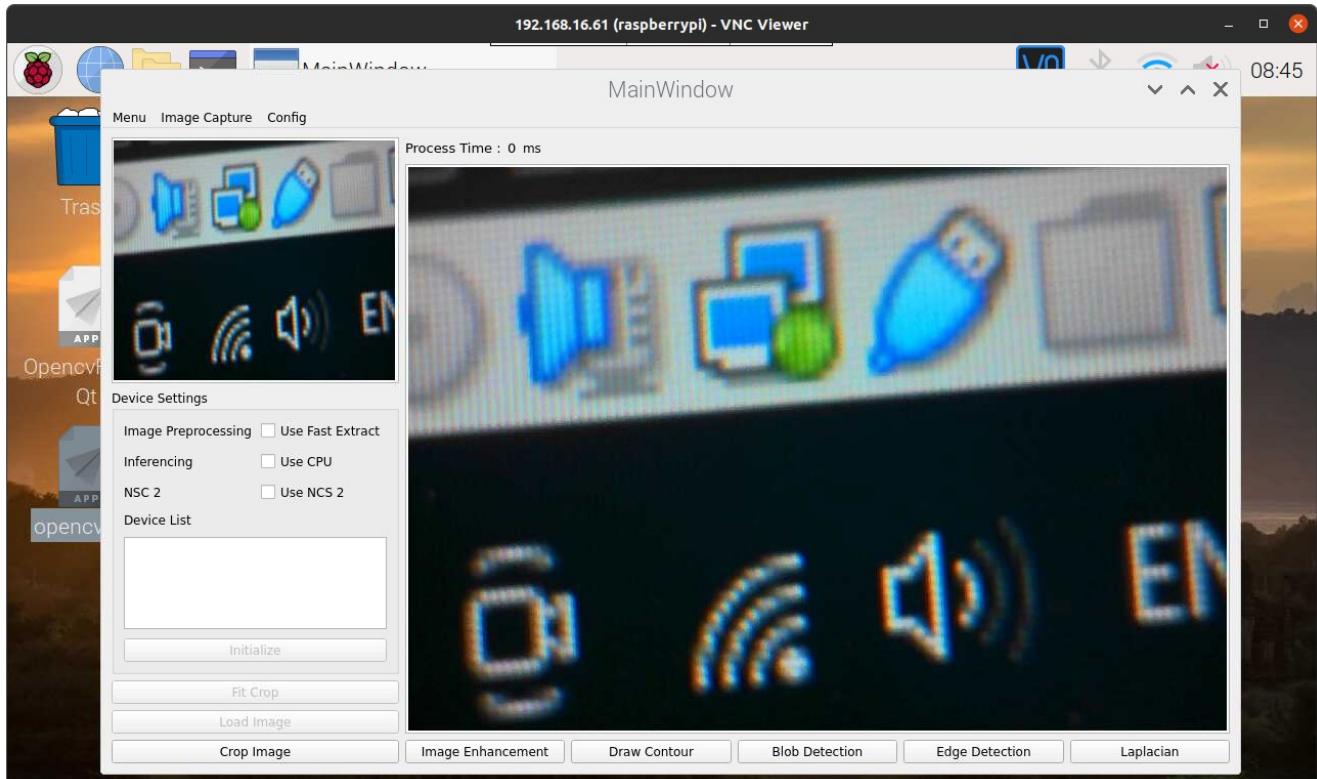


Image Capture



Blob Detection



Image Enhancement (Brightness at 100%)

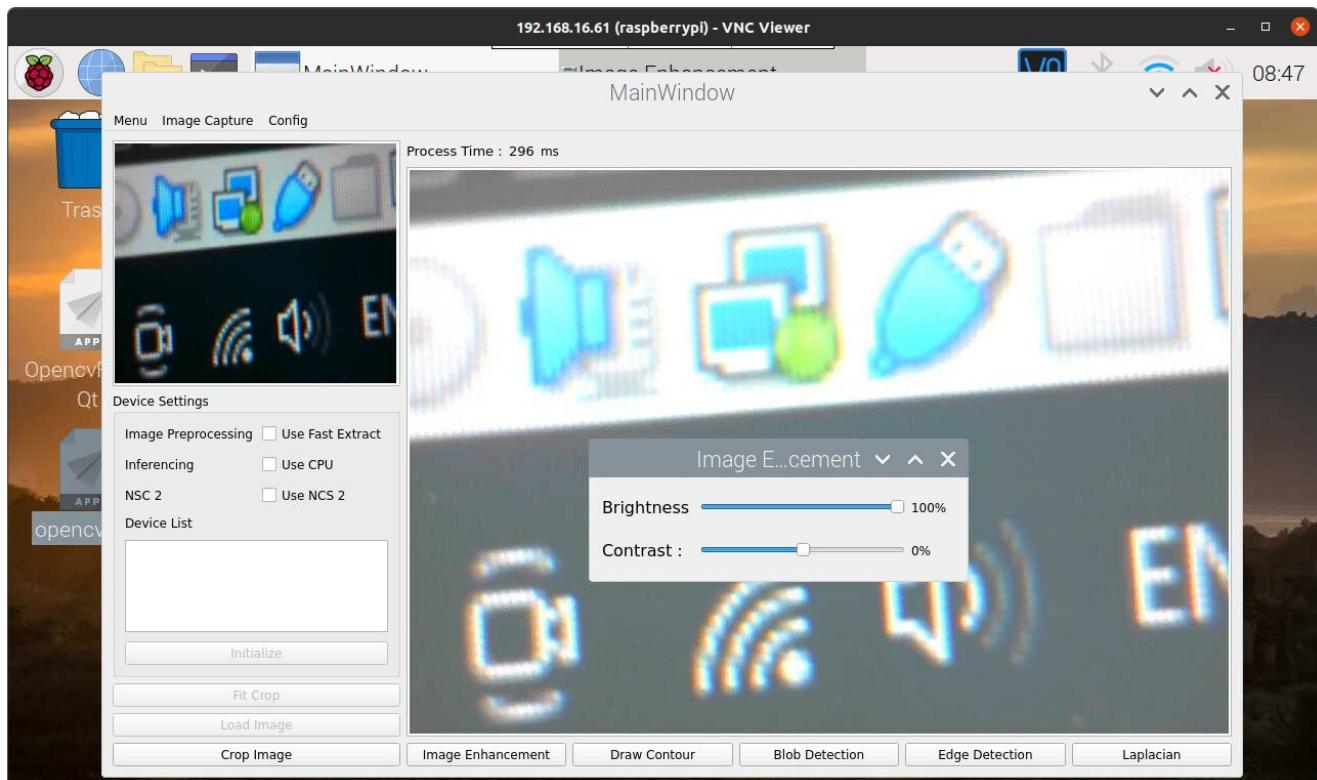


Image Enhancement (Brightness at -100%)

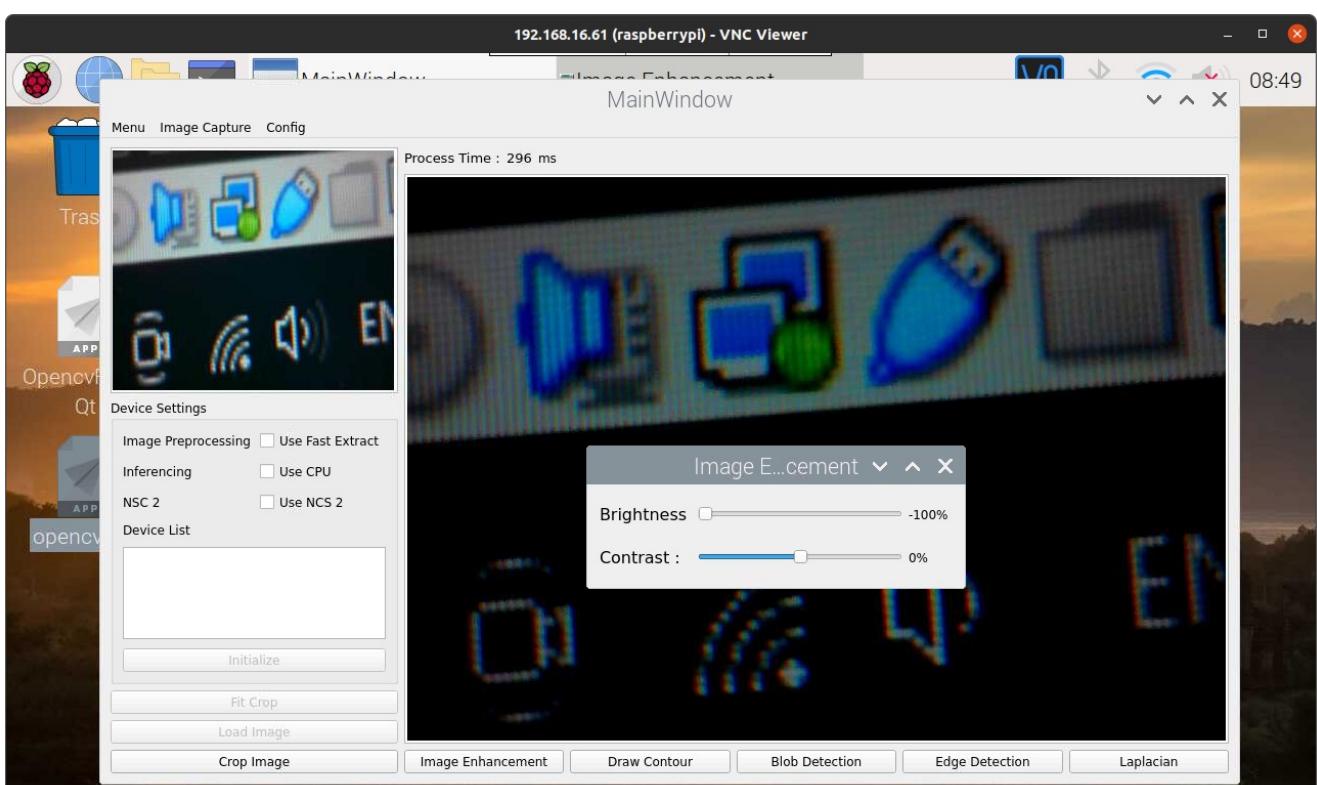


Image Enhancement (Contrast at 255%)



Image Enhancement (Contrast at -255%)



Crop Image



Draw Contour

