

# OPENVINO

## Quick Installation Guide

## REVISION HISTORY

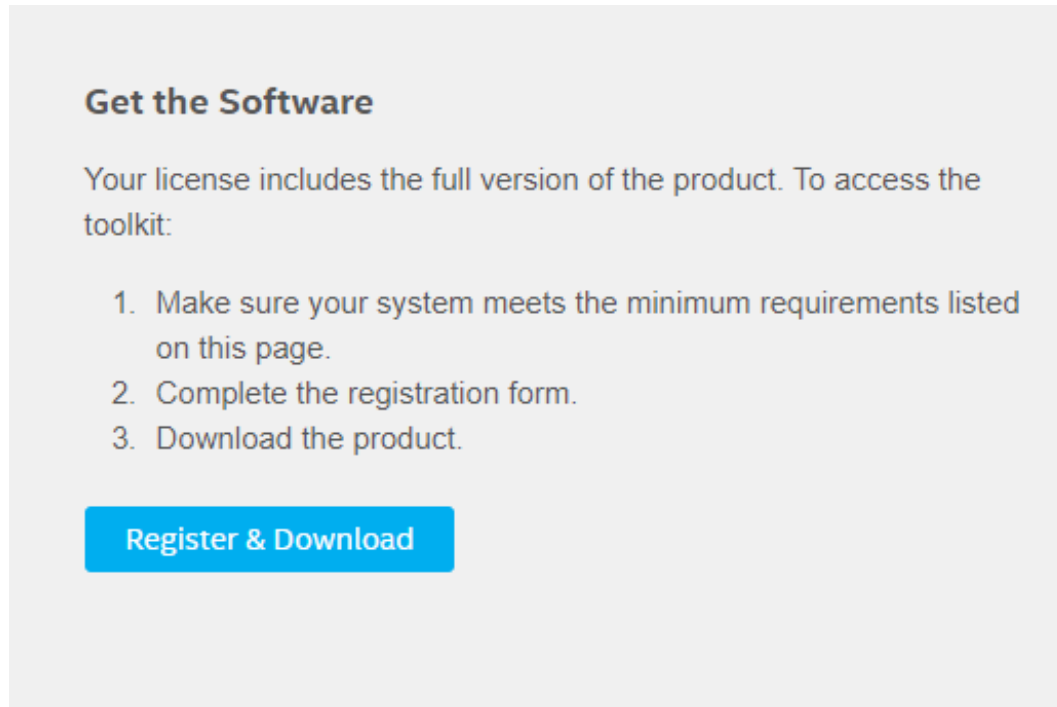
Revision	Date	Comments	Author(s)
A0.1	2019/01/09	Initial Version	Junying Lai

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# 1.OPENVINO Install

#1 Download OPENVINO : <https://software.intel.com/en-us/openvino-toolkit/choose-download/free-download-linux>



#2 Extract OPENVINO on Downloads

#3 Type: `cd ~/Downloads/l_openvino_toolkit_p_2018.5.445/`

```
a@a:~$ cd ~/Downloads/l_openvino_toolkit_p_2018.5.445/  
a@a:~/Downloads/l_openvino_toolkit_p_2018.5.445$ sudo
```

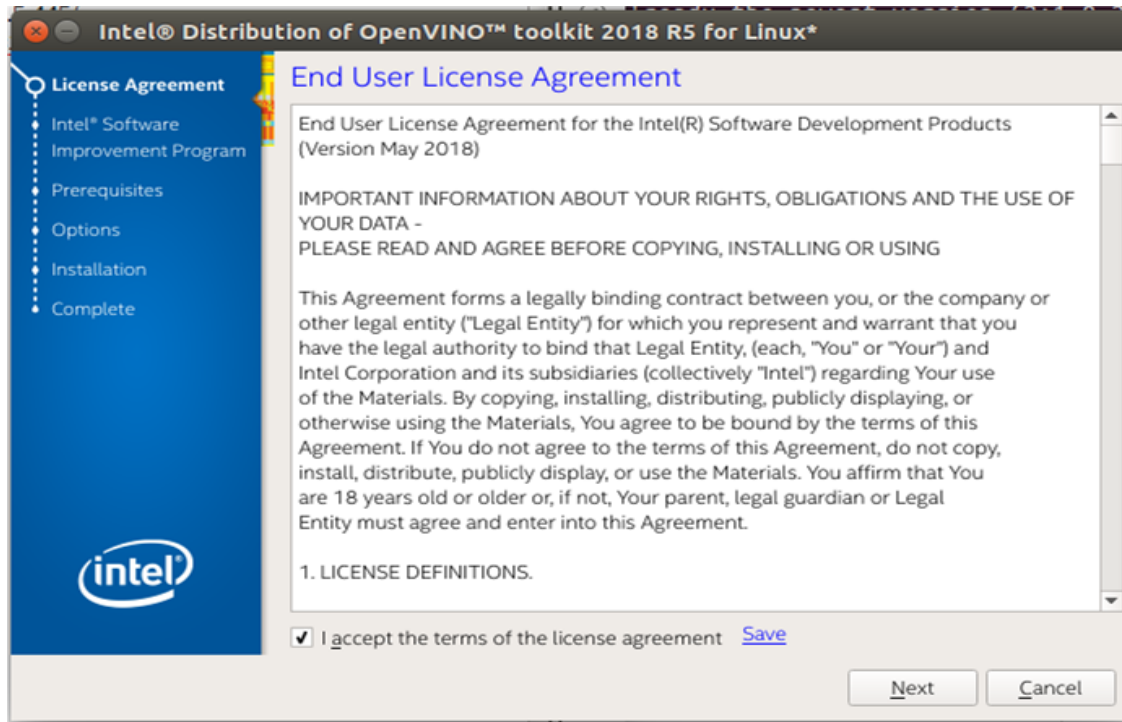
#4 Type: `sudo -E ./install_cv_sdk_dependencies.sh`

```
a@a: ~/Downloads/l_openvino_toolkit_p_2018.5.445  
a@a:~/Downloads/l_openvino_toolkit_p_2018.5.445$ sudo -E ./install_cv_sdk_dependencies.sh  
[sudo] password for a:  
  
This script installs the following OpenVINO 3rd-party dependencies:  
1. FFmpeg and GStreamer libraries required for OpenCV and Inference Engine  
2. libusb library required for Myriad plugin for Inference Engine  
3. build dependencies for OpenVINO samples
```

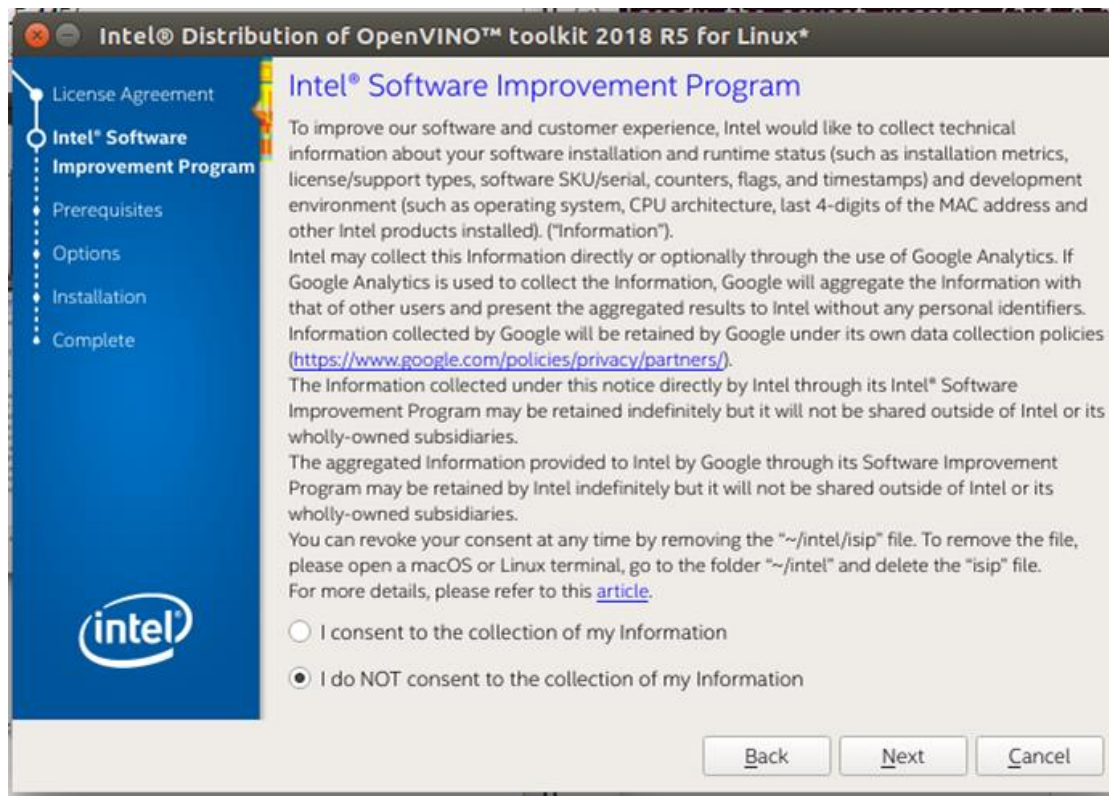
#5 Type: `sudo ./install_GUI.sh`

```
a@a:~/Downloads/l_openvino_toolkit_p_2018.5.445$ sudo ./install_GUI.sh
```

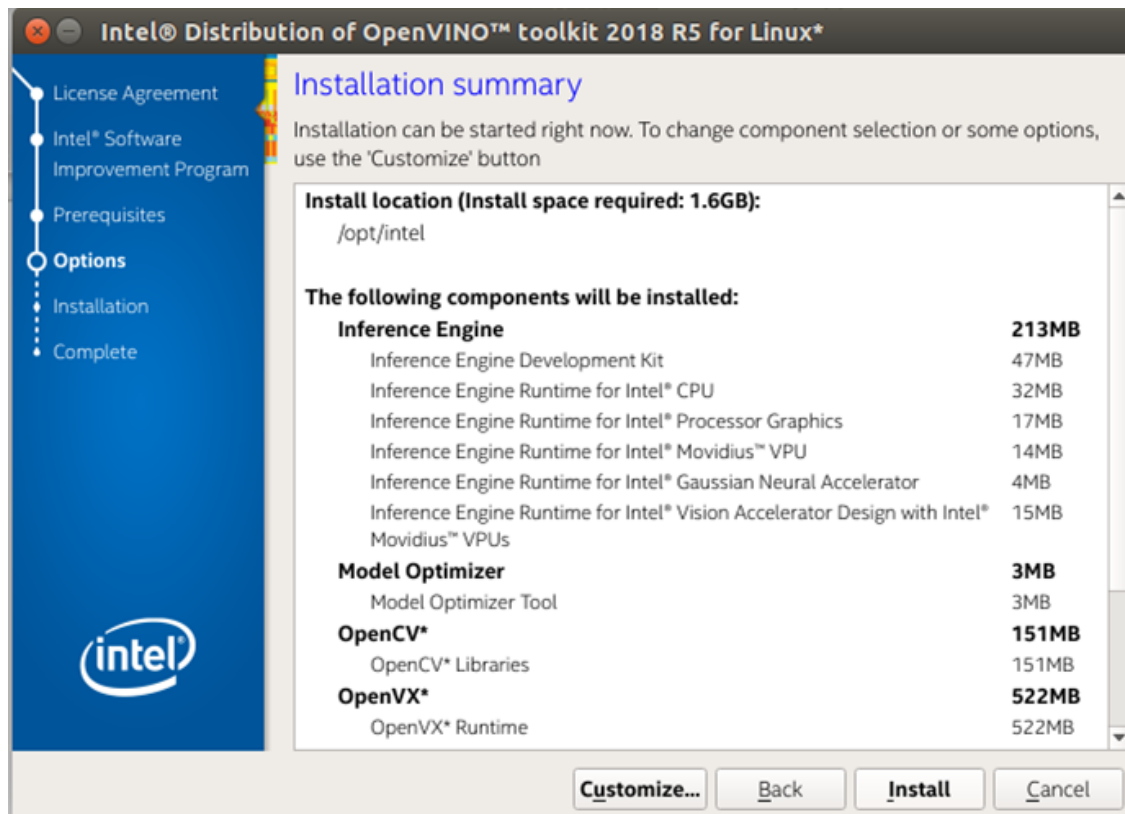
#### #6 Accept license agreement and click Next



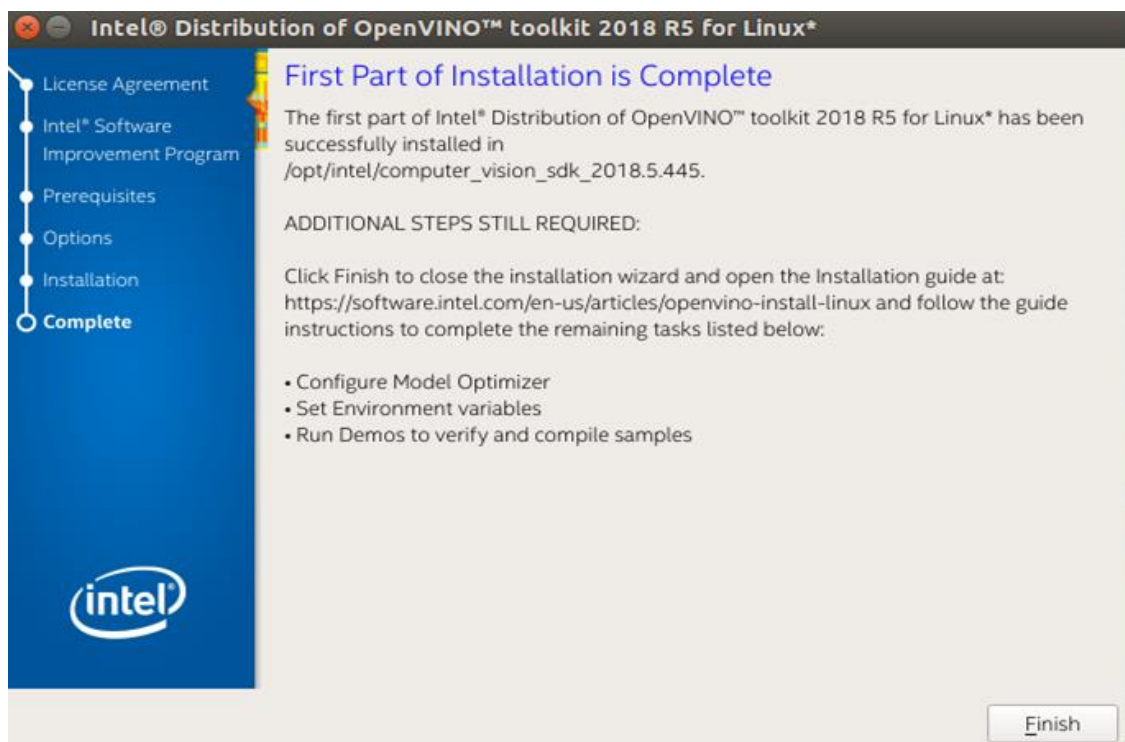
#### #7 click Next



## #8 click install



## #9 Finish install







## 2.Build Sample

#1 Type: source /opt/intel/computer\_vision\_sdk/bin/setupvars.sh

```
a@a:~/Downloads/l_openvino_toolkit_p_2018.5.445$ source /opt/intel/computer_vision_sdk/bin/setupvars.sh
[setupvars.sh] OpenVINO environment initialized
```

#2 Type: cd /opt/intel/computer\_vision\_sdk/deployment\_tools/model\_optimizer/install\_prerequisites

```
a@a:~/Downloads/l_openvino_toolkit_p_2018.5.445$ cd /opt/intel/computer_vision_sdk/deployment_tools/model_optimizer/install_prerequisites
a@a:/opt/intel/computer_vision_sdk/deployment_tools/model_optimizer/install_prerequisites$
```

#3 Type: sudo ./install\_prerequisites.sh

```
a@a:/opt/intel/computer_vision_sdk/deployment_tools/model_optimizer/install_prerequisites$ sudo ./install_prerequisites.sh
Hit:1 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:2 http://tw.archive.ubuntu.com/ubuntu xenial InRelease
Hit:3 http://tw.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:4 http://tw.archive.ubuntu.com/ubuntu xenial-backports InRelease
Reading package lists... 34%
```

#4 Type: cd /opt/intel/computer\_vision\_sdk/deployment\_tools/demo

```
a@a:/opt/intel/computer_vision_sdk/deployment_tools/model_optimizer/install_prerequisites$ cd /opt/intel/computer_vision_sdk/deployment_tools/demo
a@a:/opt/intel/computer_vision_sdk/deployment_tools/demo$
```

#5 Type: ./demo\_squeezenet\_download\_convert\_run.sh

```
a@a:/opt/intel/computer_vision_sdk/deployment_tools/demo$ ./demo_squeezenet_download_convert_run.sh
target_precision = FP32

#####

Downloading the Caffe model and the prototxt
Installing dependencies
Run sudo -E apt -y install build-essential python3-pip virtualenv cmake libcairo2-dev libpango1.0-dev libgl2.0-dev libgtk2.0-dev libswscale-dev libavcodec-dev libavformat-dev libgstreamer1.0-0 gstreamer1.0-plugins-base
Hit:1 http://tw.archive.ubuntu.com/ubuntu xenial InRelease
Hit:2 http://tw.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:3 http://tw.archive.ubuntu.com/ubuntu xenial-backports InRelease
0% [Connecting to security.ubuntu.com (91.189.88.152)]
```

#6 Type: ./demo\_security\_barrier\_camera.sh



```

a@a: /opt/intel/computer_vision_sdk/deployment_tools/demo
#####
Demo completed successfully.

a@a:/opt/intel/computer_vision_sdk/deployment_tools/demo$ ./demo_security_barrie
r_camera.sh
target_precision = FP32
Run sudo -E apt -y install build-essential cmake libcairo2-dev libpango1.0-dev l
ibglib2.0-dev libgtk2.0-dev libswscale-dev libavcodec-dev libavformat-dev libgst
reamer1.0-0 gstreamer1.0-plugins-base
Hit:1 http://tw.archive.ubuntu.com/ubuntu xenial InRelease
Hit:2 http://tw.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:3 http://tw.archive.ubuntu.com/ubuntu xenial-backports InRelease
Get:4 http://security.ubuntu.com/ubuntu xenial-security InRelease [107 kB]
Fetched 107 kB in 2s (47.5 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
20 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree
Reading state information... Done
build-essential is already the newest version (12.1ubuntu2).
libcairo2-dev is already the newest version (1.14.6-1).
libpango1.0-dev is already the newest version (1.38.1-1).
cmake is already the newest version (3.5.1-1ubuntu3).
gstreamer1.0-plugins-base is already the newest version (1.8.3-1ubuntu0.2).
libglib2.0-dev is already the newest version (2.48.2-0ubuntu4.1).
libgstreamer1.0-0 is already the newest version (1.8.3-1~ubuntu0.1).
libgtk2.0-dev is already the newest version (2.24.30-1ubuntu1.16.04.2).
libavcodec-dev is already the newest version (7:2.8.15-0ubuntu0.16.04.1).
libavformat-dev is already the newest version (7:2.8.15-0ubuntu0.16.04.1).
libswscale-dev is already the newest version (7:2.8.15-0ubuntu0.16.04.1).
0 upgraded, 0 newly installed, 0 to remove and 20 not upgraded.
Reading package lists... Done
Building dependency tree
Reading state information... Done
libpng12-dev is already the newest version (1.2.54-1ubuntu1.1).

```

#7 Type: `cd ~/inference_engine_samples_build/intel64/Release/`

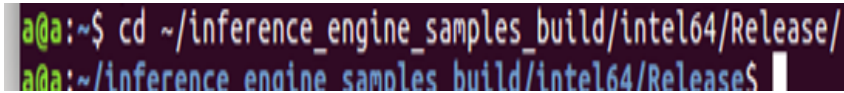
```

a@a:~$ cd ~/inference_engine_samples_build/intel64/Release/
a@a:~/inference_engine_samples_build/intel64/Release$

```

### 3.Run demo face detection by use MYRIAD

#1 Type: `cd ~/inference_engine_samples_build/intel64/Release/`



```
a@a:~$ cd ~/inference_engine_samples_build/intel64/Release/
a@a:~/inference_engine_samples_build/intel64/Release$
```

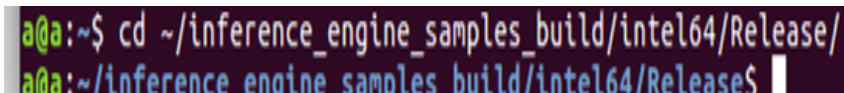
#2 Type: `sudo su`

#3 Type: `source /opt/intel/computer_vision_sdk/bin/setupvars.sh`

#4 Type: `./interactive_face_detection_demo -i "cam" -m /opt/intel/computer_vision_sdk/deployment_tools/intel_models/face-detection-adas-0001/FP16/face-detection-adas-0001.xml -d MYRIAD`

### 4.Run demo face detection by use CPU

#1 Type: `cd ~/inference_engine_samples_build/intel64/Release/`



```
a@a:~$ cd ~/inference_engine_samples_build/intel64/Release/
a@a:~/inference_engine_samples_build/intel64/Release$
```

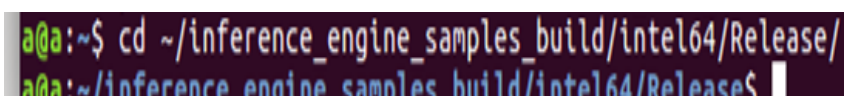
#2 Type: `sudo su`

#3 Type: `source /opt/intel/computer_vision_sdk/bin/setupvars.sh`

#4 Type: `./interactive_face_detection_demo -i "cam" -m /opt/intel/computer_vision_sdk/deployment_tools/intel_models/face-detection-adas-0001/FP16/face-detection-adas-0001.xml -d CPU`

### 5.Run demo face detection by use GPU

#1 Type: `cd ~/inference_engine_samples_build/intel64/Release/`



```
a@a:~$ cd ~/inference_engine_samples_build/intel64/Release/
a@a:~/inference_engine_samples_build/intel64/Release$
```

#2 Type: `sudo su`

#3 Type: `source /opt/intel/computer_vision_sdk/bin/setupvars.sh`

#4 Type: `./interactive_face_detection_demo -i "cam" -m`

`/opt/intel/computer_vision_sdk/deployment_tools/intel_models/face-detection-adas-0001/FP16/face-detection-adas-0001.xml -d GPU`

## 6.Run demo face detection by use HDDL

\*\*\*#1~#3 Just do it once\*\*\*

#1 Type: `sudo gedit`

`/opt/intel/computer_vision_sdk/inference_engine/external/hddl/config/hddl_autoboot.config`



```
aa@a:~/inference_engine_samples_build/intel64/Release$ sudo gedit /opt/intel/computer_vision_sdk/inference_engine/external/hddl/config/hddl_autoboot.config
```

#2 edit `total_device_num` ,according to your myriadx device number to edit



```
1 {
2   "security_settings":
3   {
4     "user_group": "users" //
5     user group which can access autoboot mutex files
6   },
7   "autoboot_settings":
8   {
9     "work_mode": "scan", //
10    mode of monitoring devices, options: {"scan", "hotplug"}
11    "startup_wait_timeout": 100000, //
12    wait timeout for autoboot startup loading all firmwares to devices in milliseconds
13    "abort_if_device_num_not_met": false, //
14    abort if still not all devices successfully load firmwares after timeout
15    "total_device_num": 1 //
16    total number of myriad devices to be used
17  },
18  "unboot_device_settings":
19  {
20    "vid": "0x03E7", //
21    uninitialized device USB vendor ID
22    "pid": "0x2485" //
23    uninitialized device USB product ID
24  },
25  "booted_device_settings":
26  {
27    "vid": "0x03E7", //
28    booted device USB vendor ID
29    "pid": "0xF63B" //
30    booted device USB product ID
31  },
32  "log_level":
33  {
34    "log_frequent": "off",
35    "log_level": "ERROR"
36  }
37 }
```

#3 Type: `reboot`

#4 Type: `cd ~/inference_engine_samples_build/intel64/Release/`

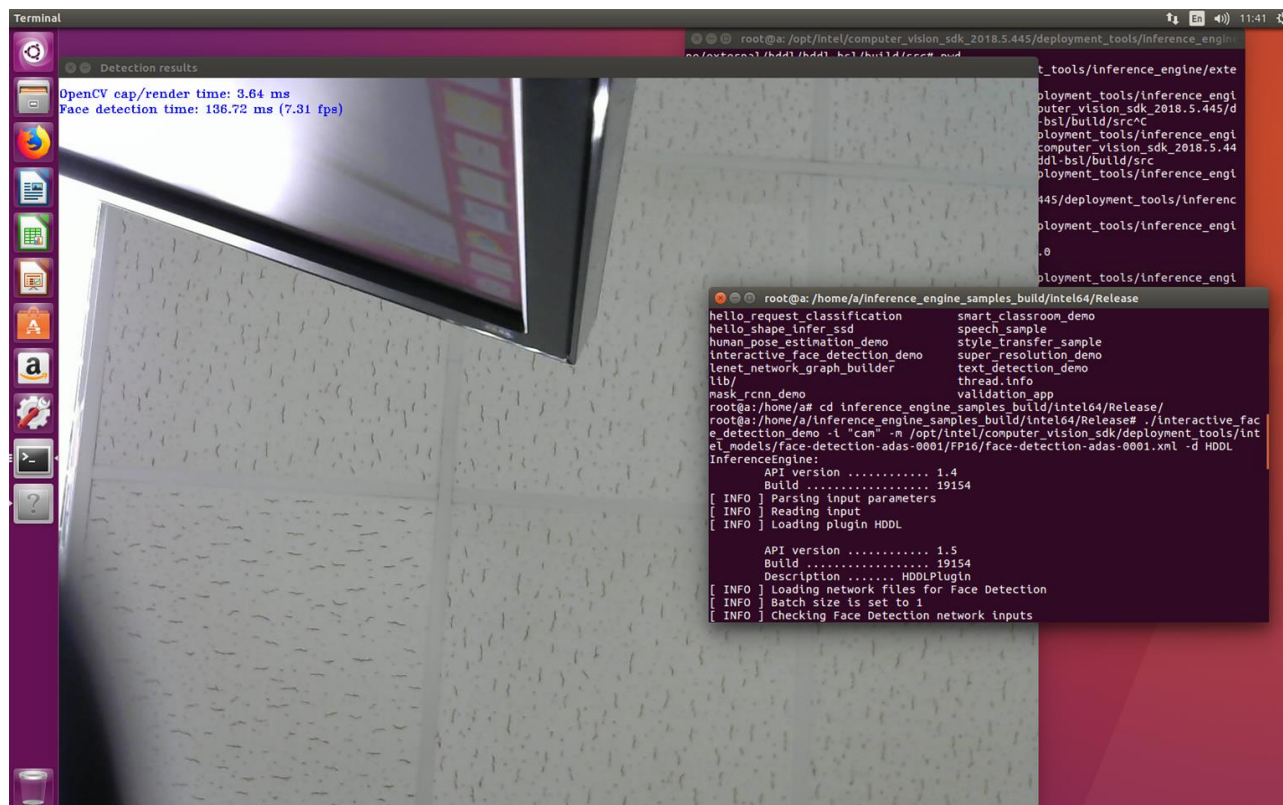
```
a@a:~$ cd ~/inference_engine_samples_build/intel64/Release/
a@a:~/inference_engine_samples_build/intel64/Release$
```

#5 Type: `sudo su`

#6 Type: `source /opt/intel/computer_vision_sdk/bin/setupvars.sh`

#7 Type: `./interactive_face_detection_demo -i "cam" -m`

`/opt/intel/computer_vision_sdk/deployment_tools/intel_models/face-detection-adas-0001/FP16/face-detection-adas-0001.xml -d HDDL`



## 7. Build Reset

#1 Type: `cd /opt/intel/computer_vision_sdk/inference_engine/external/hddl/hddl-bsl/`

```
a@a:~$ cd /opt/intel/computer_vision_sdk/inference_engine/external/hddl/hddl-bsl/
a@a:/opt/intel/computer_vision_sdk/inference_engine/external/hddl/hddl-bsl$
```

#2 Type: `sudo apt-get install libudev1`



```
a@a:/opt/intel/computer_vision_sdk/inference_engine/external/hddl/hddl-bsl$ sudo
apt-get install libudev1
[sudo] password for a:
Reading package lists... Done
Building dependency tree
Reading state information... Done
libudev1 is already the newest version (229-4ubuntu21.10).
0 upgraded, 0 newly installed, 0 to remove and 20 not upgraded.
a@a:/opt/intel/computer_vision_sdk/inference_engine/external/hddl/hddl-bsl$
```

#3 Type: `sudo apt-get install libudev-dev libjson-c-dev`

```
a@a:/opt/intel/computer_vision_sdk/inference_engine/external/hddl/hddl-bsl$ sudo
apt-get install libudev-dev libjson-c-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
libjson-c-dev is already the newest version (0.11-4ubuntu2).
libudev-dev is already the newest version (229-4ubuntu21.10).
```

#4 Type: `sudo su`

#6 Type: `mkdir build`

```
root@a:/opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engi
ne/external/hddl/hddl-bsl# mkdir build
root@a:/opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engi
ne/external/hddl/hddl-bsl#
```

#7 Type: `cd build`

```
root@a:/opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engi
ne/external/hddl/hddl-bsl# cd build
root@a:/opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engi
ne/external/hddl/hddl-bsl/build#
```

#8 Type: `make -j`

```
root@a:/opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engi
ne/external/hddl/hddl-bsl/build# make -j
Scanning dependencies of target bsl_reset
Scanning dependencies of target bsl
[ 3%] Building C object src/CMakeFiles/bsl.dir/bsl_cfg.c.o
[ 7%] Building C object src/CMakeFiles/bsl_reset.dir/thread_linux.c.o
[ 11%] Building C object src/CMakeFiles/bsl.dir/main.c.o
[ 15%] Building C object src/CMakeFiles/bsl_reset.dir/ioexpander.c.o
[ 19%] Building C object src/CMakeFiles/bsl_reset.dir/mcu.c.o
[ 23%] Building C object src/CMakeFiles/bsl_reset.dir/hid_f75114.c.o
[ 26%] Building C object src/CMakeFiles/bsl_reset.dir/i2cbusses.c.o
[ 30%] Building C object src/CMakeFiles/bsl_reset.dir/osl_linux.c.o
[ 34%] Building C object src/CMakeFiles/bsl.dir/bsl_reset.c.o
[ 38%] Building C object src/CMakeFiles/bsl_reset.dir/bsl_reset.c.o
[ 42%] Building C object src/CMakeFiles/bsl.dir/smbus_linux.c.o
[ 46%] Building C object src/CMakeFiles/bsl.dir/mcu.c.o
[ 50%] Building C object src/CMakeFiles/bsl.dir/i2cbusses.c.o
[ 53%] Building C object src/CMakeFiles/bsl.dir/hid_f75114.c.o
[ 57%] Building C object src/CMakeFiles/bsl_reset.dir/smbus_linux.c.o
[ 61%] Building C object src/CMakeFiles/bsl.dir/hidapi_linux.c.o
[ 65%] Building C object src/CMakeFiles/bsl.dir/osl_linux.c.o
[ 69%] Building C object src/CMakeFiles/bsl_reset.dir/main.c.o
[ 73%] Building C object src/CMakeFiles/bsl.dir/thread_linux.c.o
[ 76%] Building C object src/CMakeFiles/bsl_reset.dir/bsl_cfg.c.o
```

#9 Type: `make install`

```
ne/external/hddl/hddl-bsl/build# make install
[ 50%] Built target bsl
[100%] Built target bsl_reset
Install the project...
-- Install configuration: ""
-- Installing: /usr/local/bin/bsl_reset
-- Installing: /usr/local/lib/libbsl.so.0
-- Installing: /usr/local/lib/libbsl.so
-- Installing: /usr/local/include/hddl-bsl.h
cp: cannot create regular file '/etc/udev/rules.d/98-hddlbsl.rules': No such file or directory
-- /opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engine/external/hddl/hddl-bsl/build/98-hddlbsl.rules was copied to /etc/udev/rules.d/98-hddlbsl.rules
/sbin/ldconfig.real: /opt/intel/common/mdf/lib64/igfxcnrt64.so is not a symbolic link
/sbin/ldconfig.real: /opt/intel/mediasdk/lib64/libva.so.2 is not a symbolic link
/sbin/ldconfig.real: /opt/intel/mediasdk/lib64/libva-x11.so.2 is not a symbolic link
```

## 8. Run Reset

#1 Type: cd

/opt/intel/computer\_vision\_sdk\_2018.5.445/deployment\_tools/inference\_engine/external/hddl/hddl-bsl/build/src

```
a@a: /opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engine/external/hddl/hddl-bsl/build/src$
```

#2 Type: sudo ./bsl\_reset -i 224

\*\*\* 11100XXX : XXX is device 0-8 ,if device 0 , you should transform (11100000)<sub>2</sub> to (224)<sub>10</sub>

```
a@a: /opt/intel/computer_vision_sdk_2018.5.445/deployment_tools/inference_engine/external/hddl/hddl-bsl/build/src$ sudo ./bsl_reset -i 224
[sudo] password for a:
HDDL BSL configure file is not found or load failed, scanning automatically
Reset device: 224
Success
```