

# DeepStream construction

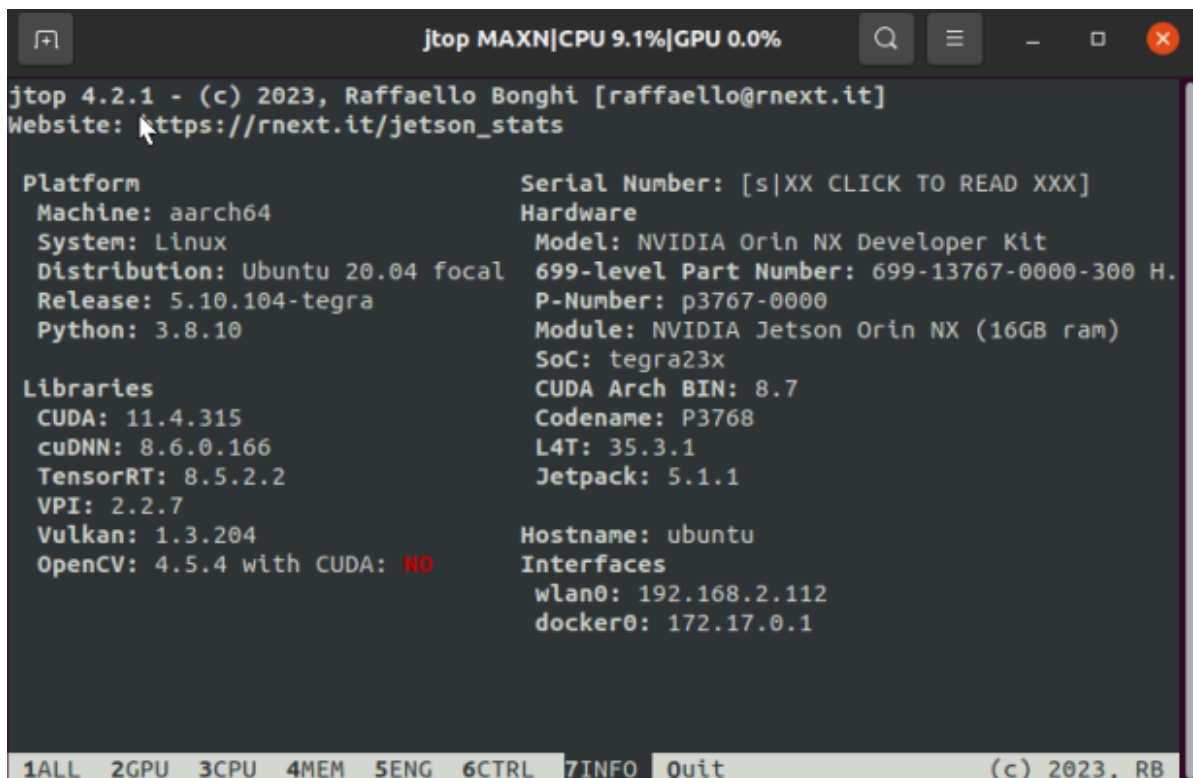
## DeepStream construction

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## 1.Pre construction instructions

This tutorial is applicable to self built images. If you are using the YAHBOOM version of the image, you can ignore this tutorial

## 2.Jetson orin nx configuration for this tutorial



```
jtop MAXN|CPU 9.1%|GPU 0.0%
jtop 4.2.1 - (c) 2023, Raffaello Bonghi [raffaello@rnext.it]
Website: https://rnext.it/jetson_stats

Platform
Machine: aarch64
System: Linux
Distribution: Ubuntu 20.04 focal
Release: 5.10.104-tegra
Python: 3.8.10

Serial Number: [s|XX CLICK TO READ XXX]
Hardware
Model: NVIDIA Orin NX Developer Kit
699-level Part Number: 699-13767-0000-300 H.
P-Number: p3767-0000
Module: NVIDIA Jetson Orin NX (16GB ram)
SoC: tegra23x
CUDA Arch BIN: 8.7
Codename: P3768
L4T: 35.3.1
Jetpack: 5.1.1

Libraries
CUDA: 11.4.315
cuDNN: 8.6.0.166
TensorRT: 8.5.2.2
VPI: 2.2.7
Vulkan: 1.3.204
OpenCV: 4.5.4 with CUDA: NO

Hostname: ubuntu
Interfaces
wlan0: 192.168.2.112
docker0: 172.17.0.1

1ALL 2GPU 3CPU 4MEM 5ENG 6CTRL 7INFO Quit (c) 2023, RB
```

After checking on the official website, this configuration can be downloaded from Deepstream version 6.2

LINKS: [https://docs.nvidia.com/metropolis/deepstream/dev-guide/text/DS\\_Quickstart.html#update-bsp-library](https://docs.nvidia.com/metropolis/deepstream/dev-guide/text/DS_Quickstart.html#update-bsp-library).

## 3.Start building

### 3.1 Download related dependencies

```
sudo apt install \  
libssl1.1 \  
libgstreamer1.0-0 \  
gstreamer1.0-tools \  
gstreamer1.0-plugins-good \  
gstreamer1.0-plugins-bad \  
gstreamer1.0-plugins-ugly \  
gstreamer1.0-libav \  
libgstreamer-plugins-base1.0-dev \  
libgststrtpserver-1.0-0 \  
libjansson4 \  
libyaml-cpp-dev
```



### 3.2 Download and install librdkafka

```
git clone https://github.com/edenhill/librdkafka.git  
cd librdkafka  
git reset --hard 7101c2310341ab3f4675fc565f64f0967e135a6a  
./configure  
make -j2  
sudo make install  
sudo mkdir -p /opt/nvidia/deepstream/deepstream-6.2/lib  
sudo cp /usr/local/lib/librdkafka* /opt/nvidia/deepstream/deepstream-6.2/lib
```



### 3.3 Installing Deepstream

Find it by logging in here

<https://developer.nvidia.com/embedded/deepstream-on-jetson-downloads-archived>

deepstream\_sdk\_v6.2.0\_jetson.tbz2, And download it.

Or you can find the deepstream in the attachment of the environment we

deepstream\_sdk\_v6.2.0\_jetson.tbz2 and transmit it to Jetson orin nx

install

```
sudo tar -xvf deepstream_sdk_v6.2.0_jetson.tbz2 -C /  
cd /opt/nvidia/deepstream/deepstream-6.2  
sudo ./install.sh  
sudo ldconfig
```

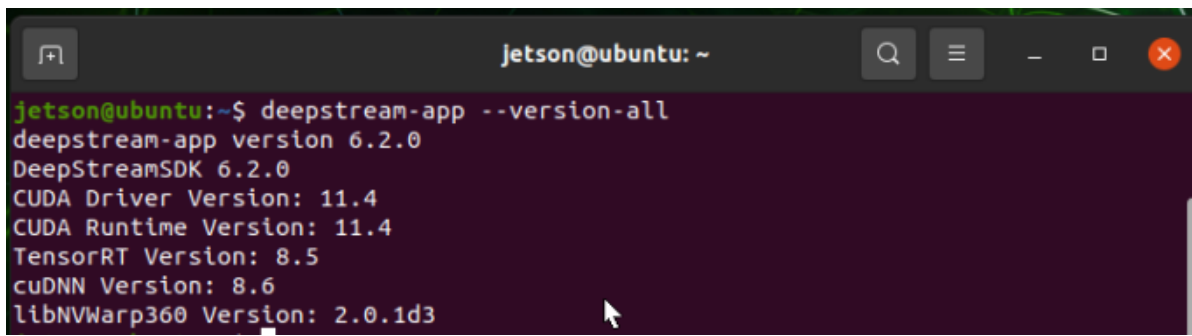


### 4.test and verify

1. To view the installation version

```
deepstream-app --version-all
```



A terminal window titled 'Jetson@ubuntu: ~' with standard Ubuntu window controls. The command 'deepstream-app --version-all' has been executed, displaying the following version information: deepstream-app version 6.2.0, DeepStreamSDK 6.2.0, CUDA Driver Version: 11.4, CUDA Runtime Version: 11.4, TensorRT Version: 8.5, cuDNN Version: 8.6, and libNVWarp360 Version: 2.0.1d3.

```
Jetson@ubuntu: ~  
jetson@ubuntu:~$ deepstream-app --version-all  
deepstream-app version 6.2.0  
DeepStreamSDK 6.2.0  
CUDA Driver Version: 11.4  
CUDA Runtime Version: 11.4  
TensorRT Version: 8.5  
cuDNN Version: 8.6  
libNVWarp360 Version: 2.0.1d3
```

2. Run a case study

```
cd /opt/nvidia/deepstream/deepstream/samples/configs/deepstream-app  
sudo deepstream-app -c source2_1080p_dec_infer-resnet_demux_int8.txt
```



Wait for a period of time, and the result shown in the figure indicates that the deepstream installation was successful.

## appendix

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Other reference links:

<https://zhuanlan.zhihu.com/p/460637017>

[https://docs.nvidia.com/metropolis/deepstream/dev-guide/text/DS\\_Quickstart.html#update-bsp-library](https://docs.nvidia.com/metropolis/deepstream/dev-guide/text/DS_Quickstart.html#update-bsp-library)