

DeepStream construction

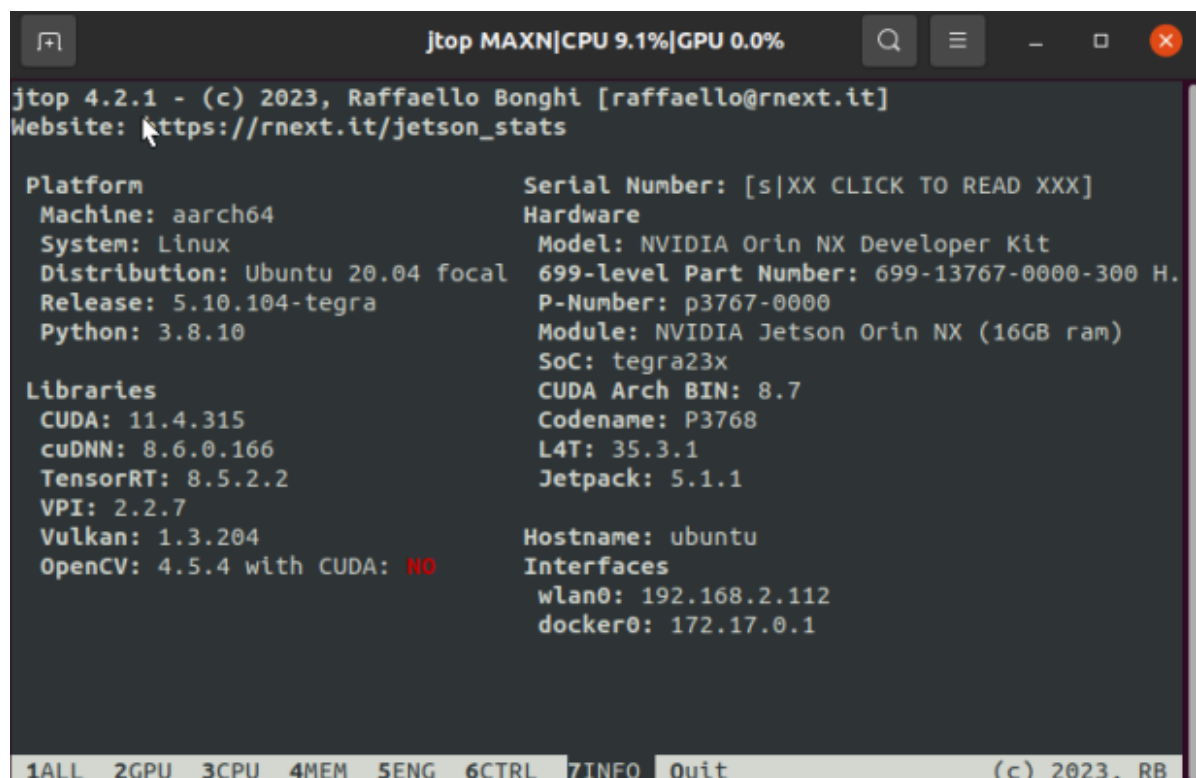
DeepStream construction

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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

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 \
libgstrtspserver-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

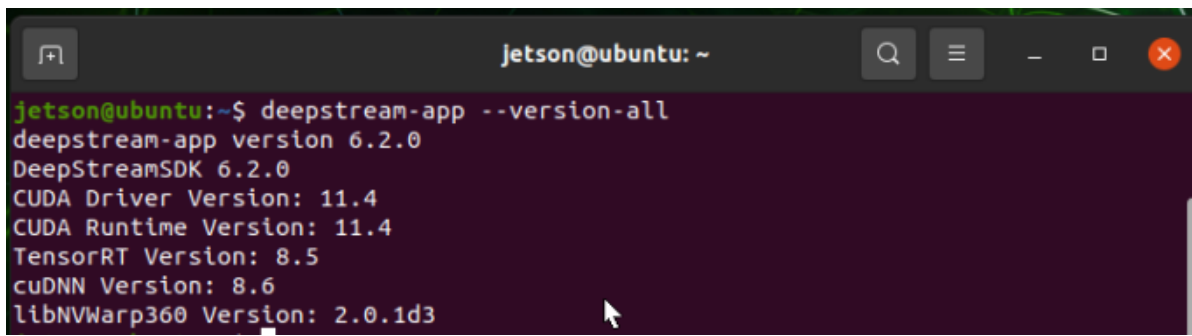
install

```
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 window controls. The command 'deepstream-app --version-all' has been executed, resulting in the following output: '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

Other reference links:

https://docs.nvidia.com/metropolis/deepstream/dev-guide/text/DS_Quickstart.html#update-bsp-library