

Real-Time Object Detection in 10 Lines of Python Code on Jetson Nano
[NVIDIA Developer](#)
<https://www.youtube.com/watch?v=bcM5AQSAzUY>

Contents

0	webpages	2
0.1	Real-Time Object Detection in 10 Lines of Python Code on Jetson Nano	2
0.2	hello ai-world	3
0.3	Building the Project from Source	4
0.4	Coding Your Own Object Detection Program	5
1	Clone/build	6
@400	build project from source	7
@520	clone	8
@530	build cmake (green screen)	9
@700	ldconfig	10
@730	process test images	11
@830	image load (detect examples)	12
2	@1200 Coding	13
@1230	write code	14
@1400	camera	15
@1745	while display isOpen	16
3	@2115 Run app	17
@2150	detect him, chair, etc	18
4	@2330 Done	19

0 webpages

0.1 Real-Time Object Detection in 10 Lines of Python Code on Jetson Nano
[NVIDIA Developer](#)

<https://www.youtube.com/watch?v=bcM5AQSAzUY>



https://github.com/dusty-nv/jetson-inference/blob/master/docs/detectnet-console-2.md



[Back](#) | [Next](#) | [Contents](#)
Object Detection

Locating Objects with DetectNet

The previous recognition examples output class probabilities representing the entire input image. Next we're going to focus on **object detection**, and finding where in the frame various objects are located by extracting their bounding boxes. Unlike image classification, object detection networks are capable of detecting many different objects per frame.



The `detectnet` object accepts an image as input, and outputs a list of coordinates of the detected bounding boxes along with their classes and confidence values. [View the DetectNet API](#) for more details.

0.3 Building the Project from Source

<https://github.com/dusty-nv/jetson-inference/blob/master/docs/building-repo-2.md>



[Back](#) | [Next](#) | [Contents](#)
[System Setup](#)

Building the Project from Source

Once your Jetson has has been [flashed with JetPack](#) or setup with the latest [SD card image](#), you should be able to either run the pre built [Docker container](#), or compile jetson inference from source. Either option is also able to install PyTorch for you.

Quick Reference

If you aren't using the [Docker container](#), here's a condensed form of the commands to build/install the project directly on your Jetson:

```
sudo apt-get update
sudo apt-get install git cmake libpython3-dev python3-numpy
git clone --recursive --depth=1 https://github.com/dusty-nv/jetson-inference
cd jetson-inference
mkdir build
cd build
```

0.4 Coding Your Own Object Detection Program

<https://github.com/dusty-nv/jetson-inference/blob/master/docs/detectnet-example-2.md>



Coding Your Own Object Detection Program

In this step of the tutorial, we'll walk through the creation of your own Python script for realtime object detection on a live camera feed in only 10-15 lines of code. The program will capture video frames and process them with detection DNN's using the `detectNet` object.

The completed source is available in the [python/examples/my-detection.py](#) file of the repo, but the guide below will act like they reside in the user's home directory or in an arbitrary directory of your choosing. Here's a quick preview of the Python code we'll be walking through:

```
from jetson_inference import detectNet
from jetson_utils import videoSource, videoOutput

net = detectNet("ssd-mobilenet-v2", threshold=0.5)
camera = videoSource("csi://0") # "/dev/video0" for V4L2
display = videoOutput("display://0") # "my_video.mp4" for file

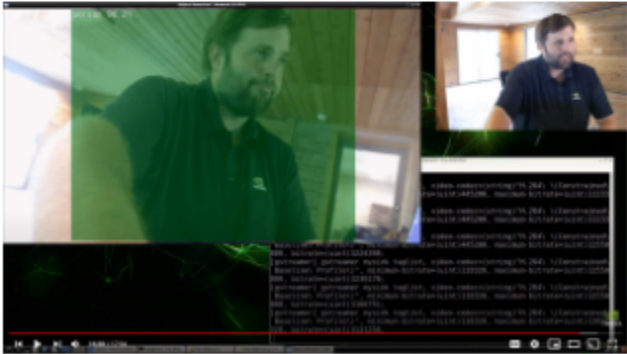
while display.IsStreaming():
    img = camera.Capture()

    if img is None: # capture timeout
        continue

    detections = net.Detect(img)

    display.Render(img)
    display.SetStatus("Object Detection | Network {:.0f} FPS".format(net.GetNetworkFPS()))
```

There's also a video screencast of this coding tutorial available on YouTube:



Source Code

First, open up your text editor of choice and create a new file. Below we'll assume that you'll save it on your host device under your user's home directory as `~/my-detection.py`, but you can name and store it where you wish. If you're using the Docker container, you'll want to store your code in a [Persistent Volume](#) so that the code is not lost when the container is removed.

1 Clone/build

@110 setup nano

```
ttnano2@ttnano2-desktop:~$ sudo apt-get update
[sudo] password for ttnano2:
Get:1 file:/var/cuda-repo-l4t-10-2-local InRelease
Ign:1 file:/var/cuda-repo-l4t-10-2-local InRelease
Get:2 file:/var/visionworks-repo InRelease
Ign:2 file:/var/visionworks-repo InRelease
Get:3 file:/var/visionworks-sfm-repo InRelease
Ign:3 file:/var/visionworks-sfm-repo InRelease
Get:4 file:/var/visionworks-tracking-repo InRelease
Ign:4 file:/var/visionworks-tracking-repo InRelease
Get:5 file:/var/cuda-repo-l4t-10-2-local Release [564 B]
Get:6 file:/var/visionworks-repo Release [2,001 B]
Get:5 file:/var/cuda-repo-l4t-10-2-local Release [564 B]
Get:7 file:/var/visionworks-sfm-repo Release [2,005 B]
Get:6 file:/var/visionworks-repo Release [2,001 B]
Get:8 file:/var/visionworks-tracking-repo Release [2,010 B]
Get:7 file:/var/visionworks-sfm-repo Release [2,005 B]
Get:8 file:/var/visionworks-tracking-repo Release [2,010 B]
Hit:9 http://ports.ubuntu.com/ubuntu-ports bionic InRelease
Hit:10 https://repo.download.nvidia.com/jetson/common r32.7 InRelease
Hit:11 http://ports.ubuntu.com/ubuntu-ports bionic-updates InRelease
Hit:12 http://ports.ubuntu.com/ubuntu-ports bionic-backports InRelease
Hit:14 https://repo.download.nvidia.com/jetson/t210 r32.7 InRelease
Hit:15 http://ports.ubuntu.com/ubuntu-ports bionic-security InRelease
Reading package lists... Done
```

@400 build project from source

<https://github.com/dusty-nv/jetson-inference/blob/master/docs/building-repo-2.md>

```
ttnano2@ttnano2-desktop:~$ sudo apt-get install git cmake libpython3-dev python3-numpy
Reading package lists... Done
Building dependency tree
Reading state information... Done
python3-numpy is already the newest version (1:1.13.3-2ubuntu1).
cmake is already the newest version (3.10.2-1ubuntu2.18.04.2).
git is already the newest version (1:2.17.1-1ubuntu0.18).
libpython3-dev is already the newest version (3.6.7-1~18.04).
The following packages were automatically installed and are no longer required:
apt-clone archdetect-deb bogl-bterm busybox-static cryptsetup-bin
dpkg-repack gir1.2-timezonemap-1.0 gir1.2-xkl-1.0 grub-common
kde-window-manager kinit kio kpackagetool5 kwayland-data kwin-common
kwin-data kwin-x11 libdebian-installer4 libdecorations2-5v5
libdecorations2-private5v5 libkf5activities5 libkf5attica5
libkf5completion-data libkf5completion5 libkf5declarative-data
libkf5declarative5 libkf5doctools5 libkf5globalaccel-data libkf5globalaccel5
libkf5globalaccelprivate5 libkf5idletime5 libkf5jobwidgets-data
libkf5jobwidgets5 libkf5kcmutils-data libkf5kcmutils5 libkf5kiocore5
libkf5kiontlm5 libkf5kiowidgets5 libkf5newstuff-data libkf5newstuff5
libkf5newstuffcore5 libkf5package-data libkf5package5 libkf5plasma5
libkf5quickaddons5 libkf5solid5 libkf5solid5-data libkf5sonnet5-data
libkf5sonnetcore5 libkf5sonnetui5 libkf5textwidgets-data libkf5textwidgets5
libkf5waylandclient5 libkf5waylandserver5 libkf5xmlgui-bin libkf5xmlgui-data
libkf5xmlgui5 libkscreenlocker5 libkwin4-effect-builtins1 libkwineffects11
libkwinglutils11 libkwinxrenderutils11 libmbim-glib4 libmbim-proxy
libqgsttools-p1 libqmi-glib5 libqmi-proxy libqt5designer5 libqt5help5
libqt5multimedia5 libqt5multimedia5-plugins libqt5multimediaquick-p5
libqt5multimediawidgets5 libqt5opengl5 libqt5quickwidgets5 libxcb-composite0
libxcb-damage0 os-prober python3-dbus.mainloop.pyqt5 python3-icu python3-pam
python3-pyqt5 python3-pyqt5.qtsvg python3-pyqt5.qtwebkit
qml-module-org-kde-kquickcontrolsaddons qml-module-qtmultimedia
qml-module-qtquick2 rdate tasksel tasksel-data usb-modeswitch
usb-modeswitch-data
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 330 not upgraded.
```

```
ttnano2@ttnano2-desktop:~$ git clone --recursive --depth=1 https://github.com/dusty-nv/jetson-inference
fatal: destination path 'jetson-inference' already exists and is not an empty directory.
ttnano2@ttnano2-desktop:~$ ls
005_24.0118_2_land_0313.py  jetson-inference  peds_0.jpg
CSI-Camera                 mav.parm          Pictures
Desktop                   mav.tlog          Public
dlib-19.17                mav.tlog.raw      pypro
dlib-19.17.tar.bz2        Music             receive_with_udp.py
docker_dli_run.sh         'my-detection (copy).py' send_with_udp.py
Documents                 my-detection.py   strace.txt
Downloads                 '~nvdli-data'     Templates
examples.desktop          nvdli-data        UARTDemo
get_heartbeat_24.0318.py  openCV1.py        Videos
grandma2                  output_0.jpg
installSwapfile           output_2.jpg
ttnano2@ttnano2-desktop:~$ mv jetson-inference/ jetson-inference_old
ttnano2@ttnano2-desktop:~$ git clone --recursive --depth=1 https://github.com/dusty-nv/jetson-inference
Cloning into 'jetson-inference'...
remote: Enumerating objects: 2154, done.
remote: Counting objects: 100% (2154/2154), done.
remote: Compressing objects: 100% (1668/1668), done.
remote: Total 2154 (delta 943), reused 1253 (delta 478), pack-reused 0
Receiving objects: 100% (2154/2154), 101.25 MiB | 4.42 MiB/s, done.
Resolving deltas: 100% (943/943), done.
Checking out files: 100% (2223/2223), done.
Submodule 'plugins/pose' (https://github.com/dusty-nv/trt_pose) registered for path 'c/plugins/pose'
Submodule 'docker/containers' (https://github.com/dusty-nv/jetson-containers) registered for path 'docker/containers'
Submodule 'python/training/classification' (https://github.com/dusty-nv/pytorch-classification) registered for path 'python/training/classification'
Submodule 'python/training/detection' (https://github.com/dusty-nv/pytorch-detection) registered for path 'python/training/detection'
Submodule 'python/training/segmentation' (https://github.com/dusty-nv/pytorch-segmentation) registered for path 'python/training/segmentation'
Submodule 'ros' (https://github.com/dusty-nv/ros_deep_learning) registered for path 'ros'
Submodule 'tools/camera-capture' (https://github.com/dusty-nv/camera-capture) registered for path 'tools/camera-capture'
Submodule 'utils' (https://github.com/dusty-nv/jetson-utils) registered for path 'utils'
Cloning into '/home/ttnano2/jetson-inference/c/plugins/pose'...
remote: Enumerating objects: 1535, done.
remote: Total 1535 (delta 0), reused 0 (delta 0), pack-reused 1535
Receiving objects: 100% (1535/1535), 2.02 MiB | 1.61 MiB/s, done.
Resolving deltas: 100% (852/852), done.
Cloning into '/home/ttnano2/jetson-inference/docker/containers'...
remote: Enumerating objects: 18797, done.
remote: Counting objects: 100% (5339/5339), done.
remote: Compressing objects: 100% (1689/1689), done.
remote: Total 18797 (delta 3793), reused 4803 (delta 3581), pack-reused 13458
Receiving objects: 100% (18797/18797), 62.82 MiB | 3.17 MiB/s, done.
Resolving deltas: 100% (12792/12792), done.
Cloning into '/home/ttnano2/jetson-inference/python/training/classification'...
remote: Enumerating objects: 113, done.
remote: Counting objects: 100% (63/63), done.
remote: Compressing objects: 100% (23/23), done.
remote: Total 113 (delta 45), reused 54 (delta 39), pack-reused 50
Receiving objects: 100% (113/113), 33.20 KiB | 849.00 KiB/s, done.
Resolving deltas: 100% (58/58), done.
Cloning into '/home/ttnano2/jetson-inference/python/training/detection'...
remote: Enumerating objects: 108, done.
remote: Counting objects: 100% (28/28), done.
remote: Compressing objects: 100% (21/21), done.
remote: Total 108 (delta 13), reused 22 (delta 7), pack-reused 80
Receiving objects: 100% (108/108), 21.02 KiB | 935.00 KiB/s, done.
Resolving deltas: 100% (43/43), done.
Cloning into '/home/ttnano2/jetson-inference/python/training/segmentation'...
remote: Enumerating objects: 174, done.
remote: Counting objects: 100% (55/55), done.
remote: Compressing objects: 100% (27/27), done.
remote: Total 174 (delta 35), reused 28 (delta 28), pack-reused 119
Receiving objects: 100% (174/174), 167.06 MiB | 4.16 MiB/s, done.
Resolving deltas: 100% (80/80), done.
Cloning into '/home/ttnano2/jetson-inference/ros'...
remote: Enumerating objects: 458, done.
remote: Counting objects: 100% (213/213), done.
remote: Compressing objects: 100% (96/96), done.
remote: Total 458 (delta 137), reused 133 (delta 117), pack-reused 245
Receiving objects: 100% (458/458), 113.39 KiB | 311.00 KiB/s, done.
Resolving deltas: 100% (277/277), done.
Cloning into '/home/ttnano2/jetson-inference/tools/camera-capture'...
remote: Enumerating objects: 114, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 114 (delta 3), reused 7 (delta 2), pack-reused 104
Receiving objects: 100% (114/114), 43.74 KiB | 710.00 KiB/s, done.
Resolving deltas: 100% (73/73), done.
Cloning into '/home/ttnano2/jetson-inference/utils'...
remote: Enumerating objects: 3505, done.
remote: Counting objects: 100% (1271/1271), done.
remote: Compressing objects: 100% (147/147), done.
remote: Total 3505 (delta 1168), reused 1131 (delta 1124), pack-reused 2234
Receiving objects: 100% (3505/3505), 1.44 MiB | 2.91 MiB/s, done.
Resolving deltas: 100% (2473/2473), done.
Submodule path 'c/plugins/pose': checked out '6fa5f5d36c9be4bdf314838d840a82dd1f2960d3'
Submodule path 'docker/containers': checked out 'bc8d0264ef25aa0d1d25a54e4658f491d2fa130f'
Submodule path 'python/training/classification': checked out '3e9cf8c4003311009539a6c101d156c919fe2250'
Submodule path 'python/training/detection': checked out '9046f5ea2835202786dbb4e3f42d89aa958200a3'
Submodule 'ssd' (https://github.com/dusty-nv/pytorch-ssd) registered for path 'python/training/detection/ssd'
```

Cloning into '/home/ttnano2/jetson-inference/python/training/detection/ssd'...
remote: Enumerating objects: 1007, done.
remote: Counting objects: 100% (528/528), done.
remote: Compressing objects: 100% (58/58), done.
remote: Total 1007 (delta 491), reused 470 (delta 470), pack-reused 479
Receiving objects: 100% (1007/1007), 1.10 MiB | 3.01 MiB/s, done.
Resolving deltas: 100% (673/673), done.
Submodule path 'python/training/detection/ssd': checked out '6accaa88845ec135a7d6fe25e9a26afd4698639d'
Submodule path 'python/training/segmentation': checked out '6ae33ba3426665b8bde8923c0434d207ea4331e0'
Submodule path 'ros': checked out '9b5a668ba2cb24708d35eb13f734f343be223bd0'
Submodule path 'tools/camera-capture': checked out '44d4de4a27aeea9dfc23d084b88e498c50a3d199'
Submodule path 'utils': checked out 'af7c667c6367fe6599d8046c213d0cb3b8221ae3'

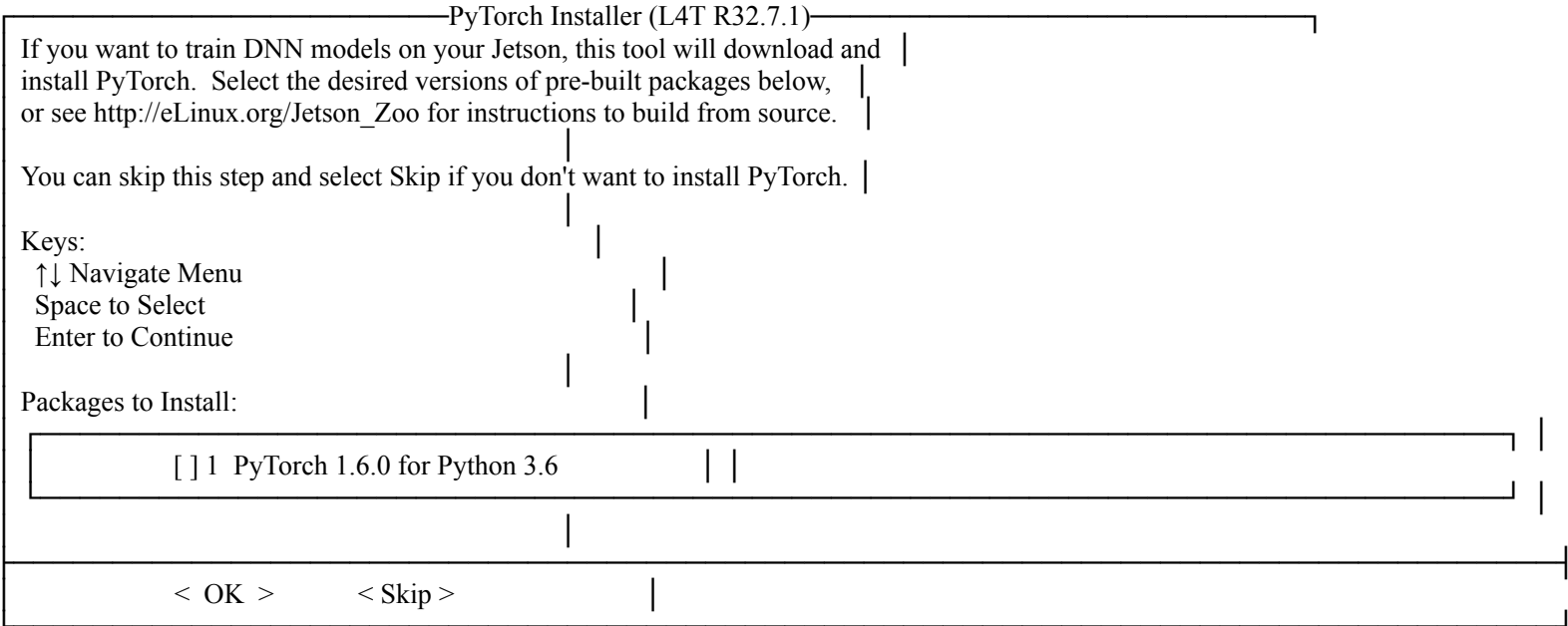
@530 build cmake (green screen)

ttnano2@ttnano2-desktop:~\$ cd jetson-inference
ttnano2@ttnano2-desktop:~/jetson-inference\$ mkdir build

NO MODEL DOWNLAODER SCREEN

@1525 pic of the pytorch instaler SKIP

Hello AI World (jetson-inference)



[jetson-inference] Package selection status: 0
[jetson-inference] No packages were selected for download.

[jetson-inference] installation complete, exiting with status code 0
[jetson-inference] to run this tool again, use the following commands:

```
$ cd <jetson-inference>/build  
$ ./install-pytorch.sh
```

[Pre-build] Finished CMakePreBuild script
-- Finished installing dependencies
-- using patched FindCUDA.cmake
-- Looking for pthread.h
-- Looking for pthread.h - found
-- Looking for pthread_create
-- Looking for pthread_create - not found
-- Looking for pthread_create in pthreads
-- Looking for pthread_create in pthreads - not found
-- Looking for pthread_create in pthread
-- Looking for pthread_create in pthread - found
-- Found Threads: TRUE
-- Found CUDA: /usr/local/cuda (found version "10.2")
-- CUDA version: 10.2
-- CUDA 10.2 detected (aarch64), enabling SM_53 SM_62
-- CUDA 10.2 detected (aarch64), enabling SM_72

-- Found OpenCV: /usr (found version "4.1.1") found components: core calib3d
-- OpenCV version: 4.1.1
-- OpenCV version >= 3.0.0, enabling OpenCV
CMake Warning at CMakeLists.txt:106 (find_package):
 Could not find a configuration file for package "VPI" that is compatible
 with requested version "2.0".

The following configuration files were considered but not accepted:

 /usr/share/vpi1/cmake/vpi-config.cmake, version: 1.2.3

-- didn't find VPI on system, disabling VPI
-- system arch: aarch64
-- output path: /home/ttnano2/jetson-inference/build/aarch64
-- BUILD_EXPERIMENTAL disabled
-- Copying /home/ttnano2/jetson-inference/c/actionNet.h
-- Copying /home/ttnano2/jetson-inference/c/backgroundNet.h
-- Copying /home/ttnano2/jetson-inference/c/depthNet.h
-- Copying /home/ttnano2/jetson-inference/c/detectNet.h
-- Copying /home/ttnano2/jetson-inference/c/imageNet.h
-- Copying /home/ttnano2/jetson-inference/c/modelDownloader.h
-- Copying /home/ttnano2/jetson-inference/c/poseNet.h
-- Copying /home/ttnano2/jetson-inference/c/segNet.h
-- Copying /home/ttnano2/jetson-inference/c/tensorConvert.h
-- Copying /home/ttnano2/jetson-inference/c/tensorNet.h
-- Copying /home/ttnano2/jetson-inference/c/calibration/randInt8Calibrator.h
-- Copying /home/ttnano2/jetson-inference/c/tracking/objectTracker.h
-- Copying /home/ttnano2/jetson-inference/c/tracking/objectTrackerIOU.h
-- Copying /home/ttnano2/jetson-inference/c/tracking/objectTrackerKLT.h
-- Could NOT find Doxygen (missing: DOXYGEN_EXECUTABLE)
-- found Qt5Widgets version: 5.9.5
-- found Qt5Widgets defines: -DQT_WIDGETS_LIB;-DQT_GUI_LIB;-DQT_CORE_LIB
-- found Qt5Widgets library: Qt5::Widgets
-- found Qt5Widgets include:
/usr/include/aarch64-linux-gnu/qt5;/usr/include/aarch64-linux-gnu/qt5/QtWidgets;/usr/include/aarch64-linux-gnu/qt5/QtGui;/usr/include/aarch64-linux-gnu/qt5/QtCore;/usr/lib/aarch64-linux-gnu/qt5/mkspecs/linux-g++
-- camera-capture: building as submodule of /home/ttnano2/jetson-inference/tools
-- jetson-utils: building as submodule, /home/ttnano2/jetson-inference
-- nvbuf_utils: /usr/lib/aarch64-linux-gnu/tegra/libnvbuf_utils.so
-- NVMM zero-copy memory: ENABLE_NVMM=ON
-- Copying /home/ttnano2/jetson-inference/utils/alphanum.h
-- Copying /home/ttnano2/jetson-inference/utils/commandLine.h
-- Copying /home/ttnano2/jetson-inference/utils/csvReader.h
-- Copying /home/ttnano2/jetson-inference/utils/csvWriter.h
-- Copying /home/ttnano2/jetson-inference/utils/filesystem.h
-- Copying /home/ttnano2/jetson-inference/utils/logging.h
-- Copying /home/ttnano2/jetson-inference/utils/mat33.h
-- Copying /home/ttnano2/jetson-inference/utils/pi.h
-- Copying /home/ttnano2/jetson-inference/utils/rand.h
-- Copying /home/ttnano2/jetson-inference/utils/timespec.h
-- Copying /home/ttnano2/jetson-inference/utils/xml.h
-- Copying /home/ttnano2/jetson-inference/utils/csvReader.hpp
-- Copying /home/ttnano2/jetson-inference/utils/csvWriter.hpp
-- Copying /home/ttnano2/jetson-inference/utils/json.hpp
-- Copying /home/ttnano2/jetson-inference/utils/camera/gstCamera.h
-- Copying /home/ttnano2/jetson-inference/utils/camera/v4l2Camera.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstBufferManager.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstDecoder.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstEncoder.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstUtility.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstWebRTC.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/nvbuf_utils.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaBayer.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaColormap.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaColorspace.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaCrop.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaDraw.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaFilterMode.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaFont.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaGrayscale.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaMappedMemory.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaMath.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaNormalize.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaOverlay.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaPointCloud.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaRGB.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaResize.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaUtility.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaVector.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaWarp.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaYUV.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaAlphaBlend.cuh
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaFilterMode.cuh
-- Copying /home/ttnano2/jetson-inference/utils/display/glBuffer.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glCamera.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glDisplay.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glEvents.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glTexture.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glUtility.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glWidget.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageFormat.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageIO.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageLoader.h

```
-- Copying /home/ttnano2/jetson-inference/utils/image/imageWriter.h
-- Copying /home/ttnano2/jetson-inference/utils/image/loadImage.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageFormat.inl
-- Copying /home/ttnano2/jetson-inference/utils/input/devInput.h
-- Copying /home/ttnano2/jetson-inference/utils/input/devJoystick.h
-- Copying /home/ttnano2/jetson-inference/utils/input/devKeyboard.h
-- Copying /home/ttnano2/jetson-inference/utils/network/Endian.h
-- Copying /home/ttnano2/jetson-inference/utils/network/IPv4.h
-- Copying /home/ttnano2/jetson-inference/utils/network/IPv6.h
-- Copying /home/ttnano2/jetson-inference/utils/network/Networking.h
-- Copying /home/ttnano2/jetson-inference/utils/network/RTSPServer.h
-- Copying /home/ttnano2/jetson-inference/utils/network/Socket.h
-- Copying /home/ttnano2/jetson-inference/utils/network/URI.h
-- Copying /home/ttnano2/jetson-inference/utils/network/WebRTCServer.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Event.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Mutex.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Process.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/RingBuffer.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Thread.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Event.inl
-- Copying /home/ttnano2/jetson-inference/utils/threads/Mutex.inl
-- Copying /home/ttnano2/jetson-inference/utils/threads/RingBuffer.inl
-- Copying /home/ttnano2/jetson-inference/utils/video/videoOptions.h
-- Copying /home/ttnano2/jetson-inference/utils/video/videoOutput.h
-- Copying /home/ttnano2/jetson-inference/utils/video/videoSource.h
-- trying to build Python bindings for Python versions: 2.7;3.6;3.7
-- detecting Python 2.7...
-- found Python version: 2.7 (2.7.17)
-- found Python include: /usr/include/python2.7
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython2.7.so
-- CMake module path: /home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python2.7/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python2.7/dist-packages/numpy/core/include
-- detecting Python 3.6...
-- found Python version: 3.6 (3.6.9)
-- found Python include: /usr/include/python3.6m
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython3.6m.so
-- CMake module path: /home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python3/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python3/dist-packages/numpy/core/include
-- detecting Python 3.7...
-- Python 3.7 wasn't found
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-array-interface.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-examples.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-from-cv.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-from-numpy.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-from-pytorch.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-to-cv.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-to-numpy.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-to-pytorch.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-display.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-logging.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-video.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/video-viewer.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-cuda.sh
-- trying to build Python bindings for Python versions: 2.7;3.6;3.7
-- detecting Python 2.7...
-- found Python version: 2.7 (2.7.17)
-- found Python include: /usr/include/python2.7
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython2.7.so
-- CMake module path:
/home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/python/bindings;/home/ttnano2/jetson-inference/python/bindings/../../utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python2.7/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python2.7/dist-packages/numpy/core/include
-- detecting Python 3.6...
-- found Python version: 3.6 (3.6.9)
-- found Python include: /usr/include/python3.6m
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython3.6m.so
-- CMake module path:
/home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/python/bindings;/home/ttnano2/jetson-inference/python/bindings/../../utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python3/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python3/dist-packages/numpy/core/include
-- detecting Python 3.7...
-- Python 3.7 wasn't found
-- Copying /home/ttnano2/jetson-inference/python/examples/actionnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/backgroundnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/depthnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/depthnet_utils.py
-- Copying /home/ttnano2/jetson-inference/python/examples/detectnet-snap.py
-- Copying /home/ttnano2/jetson-inference/python/examples/detectnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/imagenet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/my-detection.py
-- Copying /home/ttnano2/jetson-inference/python/examples/my-recognition.py
-- Copying /home/ttnano2/jetson-inference/python/examples/posenet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/segnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/segnet_utils.py
-- linking jetson-inference with OpenCV 4.1.1
-- Configuring done
-- Generating done
-- Build files have been written to: /home/ttnano2/jetson-inference/build
ttnano2@ttnano2-desktop:~/jetson-inference/build$ ^C
```

@640 make

```
ttnano2@ttnano2-desktop:~/jetson-inference/build$ make
[ 0%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaYUV-YV12.cu.o
[ 0%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaColormap.cu.o
[ 1%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaCrop.cu.o
[ 2%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaDraw.cu.o
[ 2%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaFilterMode.cu.o
[ 3%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaFont.cu.o
[ 4%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaGrayscale.cu.o
[ 4%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaNormalize.cu.o
[ 5%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaOverlay.cu.o
[ 6%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaPointCloud.cu.o
[ 7%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaRGB.cu.o
[ 7%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaResize.cu.o
[ 8%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaWarp-affine.cu.o
[ 9%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaWarp-fisheye.cu.o
[ 9%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaWarp-intrinsic.cu.o
[ 10%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaYUV-NV12.cu.o
[ 11%] Building NVCC (Device) object utils/CMakeFiles/jetson-utils.dir/cuda/jetson-utils_generated_cudaYUV-YUYV.cu.o
Scanning dependencies of target jetson-utils
[ 12%] Building CXX object utils/CMakeFiles/jetson-utils.dir/commandLine.cpp.o
[ 13%] Building CXX object utils/CMakeFiles/jetson-utils.dir/filesystem.cpp.o
[ 13%] Building CXX object utils/CMakeFiles/jetson-utils.dir/logging.cpp.o
[ 14%] Building CXX object utils/CMakeFiles/jetson-utils.dir/timespec.cpp.o
[ 15%] Building CXX object utils/CMakeFiles/jetson-utils.dir/xml.cpp.o
[ 16%] Building CXX object utils/CMakeFiles/jetson-utils.dir/camera/gstCamera.cpp.o
[ 16%] Building CXX object utils/CMakeFiles/jetson-utils.dir/camera/v4l2Camera.cpp.o
[ 17%] Building CXX object utils/CMakeFiles/jetson-utils.dir/codec/gstBufferManager.cpp.o
[ 18%] Building CXX object utils/CMakeFiles/jetson-utils.dir/codec/gstDecoder.cpp.o
[ 18%] Building CXX object utils/CMakeFiles/jetson-utils.dir/codec/gstEncoder.cpp.o
[ 19%] Building CXX object utils/CMakeFiles/jetson-utils.dir/codec/gstUtility.cpp.o
[ 20%] Building CXX object utils/CMakeFiles/jetson-utils.dir/codec/gstWebRTC.cpp.o
[ 20%] Building CXX object utils/CMakeFiles/jetson-utils.dir/cuda/cudaBayer.cpp.o
[ 21%] Building CXX object utils/CMakeFiles/jetson-utils.dir/cuda/cudaColorspace.cpp.o
[ 22%] Building CXX object utils/CMakeFiles/jetson-utils.dir/cuda/cudaPointCloud.cpp.o
[ 22%] Building CXX object utils/CMakeFiles/jetson-utils.dir/display/glBuffer.cpp.o
[ 23%] Building CXX object utils/CMakeFiles/jetson-utils.dir/display/glCamera.cpp.o
[ 24%] Building CXX object utils/CMakeFiles/jetson-utils.dir/display/glDisplay.cpp.o
[ 24%] Building CXX object utils/CMakeFiles/jetson-utils.dir/display/glEvents.cpp.o
[ 25%] Building CXX object utils/CMakeFiles/jetson-utils.dir/display/glTexture.cpp.o
[ 26%] Building CXX object utils/CMakeFiles/jetson-utils.dir/display/glWidget.cpp.o
[ 27%] Building CXX object utils/CMakeFiles/jetson-utils.dir/image/imageIO.cpp.o
[ 27%] Building CXX object utils/CMakeFiles/jetson-utils.dir/image/imageLoader.cpp.o
[ 28%] Building CXX object utils/CMakeFiles/jetson-utils.dir/image/imageWriter.cpp.o
[ 29%] Building CXX object utils/CMakeFiles/jetson-utils.dir/input/devInput.cpp.o
[ 29%] Building CXX object utils/CMakeFiles/jetson-utils.dir/input/devJoystick.cpp.o
[ 30%] Building CXX object utils/CMakeFiles/jetson-utils.dir/input/devKeyboard.cpp.o
[ 31%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/IPv4.cpp.o
[ 31%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/IPv6.cpp.o
[ 32%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/Networking.cpp.o
[ 33%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/RTSPServer.cpp.o
[ 33%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/Socket.cpp.o
[ 34%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/URI.cpp.o
[ 35%] Building CXX object utils/CMakeFiles/jetson-utils.dir/network/WebRTCServer.cpp.o
[ 36%] Building CXX object utils/CMakeFiles/jetson-utils.dir/threads/Process.cpp.o
[ 36%] Building CXX object utils/CMakeFiles/jetson-utils.dir/threads/Thread.cpp.o
[ 37%] Building CXX object utils/CMakeFiles/jetson-utils.dir/video/videoOptions.cpp.o
[ 38%] Building CXX object utils/CMakeFiles/jetson-utils.dir/video/videoOutput.cpp.o
[ 38%] Building CXX object utils/CMakeFiles/jetson-utils.dir/video/videoSource.cpp.o
[ 39%] Linking CXX shared library ../aarch64/lib/libjetson-utils.so
[ 39%] Built target jetson-utils
[ 39%] Building NVCC (Device) object CMakeFiles/jetson-inference.dir/c/jetson-inference_generated_tensorConvert.cu.o
[ 40%] Building NVCC (Device) object CMakeFiles/jetson-inference.dir/c/jetson-inference_generated_backgroundNet.cu.o
[ 40%] Building NVCC (Device) object CMakeFiles/jetson-inference.dir/c/jetson-inference_generated_depthNet.cu.o
[ 41%] Building NVCC (Device) object CMakeFiles/jetson-inference.dir/c/jetson-inference_generated_detectNet.cu.o
[ 42%] Building NVCC (Device) object CMakeFiles/jetson-inference.dir/c/jetson-inference_generated_segNet.cu.o
Scanning dependencies of target jetson-inference
[ 43%] Building CXX object CMakeFiles/jetson-inference.dir/c/actionNet.cpp.o
[ 44%] Building CXX object CMakeFiles/jetson-inference.dir/c/backgroundNet.cpp.o
[ 44%] Building CXX object CMakeFiles/jetson-inference.dir/c/depthNet.cpp.o
[ 45%] Building CXX object CMakeFiles/jetson-inference.dir/c/detectNet.cpp.o
[ 46%] Building CXX object CMakeFiles/jetson-inference.dir/c/imageNet.cpp.o
[ 47%] Building CXX object CMakeFiles/jetson-inference.dir/c/modelDownloader.cpp.o
[ 47%] Building CXX object CMakeFiles/jetson-inference.dir/c/poseNet.cpp.o
[ 48%] Building CXX object CMakeFiles/jetson-inference.dir/c/segNet.cpp.o
[ 49%] Building CXX object CMakeFiles/jetson-inference.dir/c/tensorNet.cpp.o
[ 49%] Building CXX object CMakeFiles/jetson-inference.dir/c/calibration/randInt8Calibrator.cpp.o
[ 50%] Building CXX object CMakeFiles/jetson-inference.dir/c/tracking/objectTracker.cpp.o
[ 51%] Building CXX object CMakeFiles/jetson-inference.dir/c/tracking/objectTrackerIOU.cpp.o
[ 51%] Building CXX object CMakeFiles/jetson-inference.dir/c/tracking/objectTrackerKLT.cpp.o
[ 52%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/FlattenConcat.cpp.o
[ 53%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/pose/trt_pose/parse/connect_parts.cpp.o
[ 53%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/pose/trt_pose/parse/find_peaks.cpp.o
[ 54%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/pose/trt_pose/parse/munkres.cpp.o
[ 55%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/pose/trt_pose/parse/paf_score_graph.cpp.o
[ 55%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/pose/trt_pose/parse/refine_peaks.cpp.o
[ 56%] Building CXX object CMakeFiles/jetson-inference.dir/c/plugins/pose/trt_pose/parse/test_all.cpp.o
[ 57%] Linking CXX shared library aarch64/lib/libjetson-inference.so
[ 57%] Built target jetson-inference
Scanning dependencies of target imagenet
```

[57%] Building CXX object examples/imagenet/CMakeFiles/imagenet.dir/imagenet.cpp.o
[58%] Linking CXX executable ../../aarch64/bin/imagenet
[58%] Built target imagenet
Scanning dependencies of target depthnet
[58%] Building CXX object examples/depthnet/CMakeFiles/depthnet.dir/depthnet.cpp.o
[59%] Linking CXX executable ../../aarch64/bin/depthnet
[59%] Built target depthnet
Scanning dependencies of target detectnet
[60%] Building CXX object examples/detectnet/CMakeFiles/detectnet.dir/detectnet.cpp.o
[61%] Linking CXX executable ../../aarch64/bin/detectnet
[61%] Built target detectnet
Scanning dependencies of target posenet
[62%] Building CXX object examples/posenet/CMakeFiles/posenet.dir/posenet.cpp.o
[63%] Linking CXX executable ../../aarch64/bin/posenet
[63%] Built target posenet
Scanning dependencies of target segnet
[63%] Building CXX object examples/segnet/CMakeFiles/segnet.dir/segnet.cpp.o
[64%] Linking CXX executable ../../aarch64/bin/segnet
[64%] Built target segnet
Scanning dependencies of target actionnet
[64%] Building CXX object examples/actionnet/CMakeFiles/actionnet.dir/actionnet.cpp.o
[65%] Linking CXX executable ../../aarch64/bin/actionnet
[65%] Built target actionnet
Scanning dependencies of target backgroundnet
[66%] Building CXX object examples/backgroundnet/CMakeFiles/backgroundnet.dir/backgroundnet.cpp.o
[66%] Linking CXX executable ../../aarch64/bin/backgroundnet
[66%] Built target backgroundnet
Scanning dependencies of target camera-capture_autogen
[67%] Automatic MOC for target camera-capture
[67%] Built target camera-capture_autogen
Scanning dependencies of target camera-capture
[68%] Building CXX object tools/camera-capture/CMakeFiles/camera-capture.dir/camera-capture.cpp.o
[69%] Building CXX object tools/camera-capture/CMakeFiles/camera-capture.dir/captureWindow.cpp.o
[69%] Building CXX object tools/camera-capture/CMakeFiles/camera-capture.dir/controlClassify.cpp.o
[70%] Building CXX object tools/camera-capture/CMakeFiles/camera-capture.dir/controlDetection.cpp.o
[71%] Building CXX object tools/camera-capture/CMakeFiles/camera-capture.dir/controlWindow.cpp.o
[71%] Building CXX object tools/camera-capture/CMakeFiles/camera-capture.dir/camera-capture_autogen/mocs_compilation.cpp.o
[72%] Linking CXX executable ../../aarch64/bin/camera-capture
[72%] Built target camera-capture
Scanning dependencies of target jetson-utils-python-27
[73%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyCUDA.cpp.o
[73%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyCamera.cpp.o
[74%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyGL.cpp.o
[75%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyImageIO.cpp.o
[75%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyLogging.cpp.o
[76%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyNumpy.cpp.o
[77%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyUtils.cpp.o
[77%] Building CXX object utils/python/bindings_python_2.7/CMakeFiles/jetson-utils-python-27.dir/PyVideo.cpp.o
[78%] Linking CXX shared library ../../aarch64/lib/python/2.7/jetson_utils_python.so
[78%] Built target jetson-utils-python-27
Scanning dependencies of target jetson-utils-python-36
[79%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyCUDA.cpp.o
[80%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyCamera.cpp.o
[80%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyGL.cpp.o
[81%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyImageIO.cpp.o
[82%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyLogging.cpp.o
[82%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyNumpy.cpp.o
[83%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyUtils.cpp.o
[84%] Building CXX object utils/python/bindings_python_3.6/CMakeFiles/jetson-utils-python-36.dir/PyVideo.cpp.o
[84%] Linking CXX shared library ../../aarch64/lib/python/3.6/jetson_utils_python.so
[84%] Built target jetson-utils-python-36
Scanning dependencies of target video-viewer
[85%] Building CXX object utils/video/video-viewer/CMakeFiles/video-viewer.dir/video-viewer.cpp.o
[86%] Linking CXX executable ../../aarch64/bin/video-viewer
[86%] Built target video-viewer
Scanning dependencies of target jetson-inference-python-27
[87%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyActionNet.cpp.o
[87%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyBackgroundNet.cpp.o
[88%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyDepthNet.cpp.o
[89%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyDetectNet.cpp.o
[89%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyImageNet.cpp.o
[90%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyInference.cpp.o
[91%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyPoseNet.cpp.o
[91%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PySegNet.cpp.o
[92%] Building CXX object python/bindings_python_2.7/CMakeFiles/jetson-inference-python-27.dir/PyTensorNet.cpp.o
[93%] Linking CXX shared library ../../aarch64/lib/python/2.7/jetson_inference_python.so
[93%] Built target jetson-inference-python-27
Scanning dependencies of target jetson-inference-python-36
[93%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyActionNet.cpp.o
[94%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyBackgroundNet.cpp.o
[95%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyDepthNet.cpp.o
[96%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyDetectNet.cpp.o
[96%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyImageNet.cpp.o
[97%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyInference.cpp.o
[98%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyPoseNet.cpp.o
[98%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PySegNet.cpp.o
[99%] Building CXX object python/bindings_python_3.6/CMakeFiles/jetson-inference-python-36.dir/PyTensorNet.cpp.o
[100%] Linking CXX shared library ../../aarch64/lib/python/3.6/jetson_inference_python.so
[100%] Built target jetson-inference-python-36

ttnano2@ttnano2-desktop:~/jetson-inference/build\$

@650 sudo make install

ttnano2@ttnano2-desktop:~/jetson-inference/build\$ sudo make install

Note: this project uses git submodules in the source tree.
if you haven't already, run the following command from
the project's root directory:

git submodule update --init

-- distro ID: Ubuntu
-- distro version: 18.04
-- distro codename: bionic
-- using patched FindCUDA.cmake
-- CUDA version: 10.2
-- CUDA 10.2 detected (aarch64), enabling SM_53 SM_62
-- CUDA 10.2 detected (aarch64), enabling SM_72
-- OpenCV version: 4.1.1
-- OpenCV version >= 3.0.0, enabling OpenCV
CMake Warning at CMakeLists.txt:106 (find_package):
Could not find a configuration file for package "VPI" that is compatible
with requested version "2.0".

The following configuration files were considered but not accepted:

/usr/share/vpi1/cmake/vpi-config.cmake, version: 1.2.3

-- didn't find VPI on system, disabling VPI
-- system arch: aarch64
-- output path: /home/ttnano2/jetson-inference/build/aarch64
-- BUILD_EXPERIMENTAL disabled
-- Copying /home/ttnano2/jetson-inference/c/actionNet.h
-- Copying /home/ttnano2/jetson-inference/c/backgroundNet.h
-- Copying /home/ttnano2/jetson-inference/c/depthNet.h
-- Copying /home/ttnano2/jetson-inference/c/detectNet.h
-- Copying /home/ttnano2/jetson-inference/c/imageNet.h
-- Copying /home/ttnano2/jetson-inference/c/modelDownloader.h
-- Copying /home/ttnano2/jetson-inference/c/poseNet.h
-- Copying /home/ttnano2/jetson-inference/c/segNet.h
-- Copying /home/ttnano2/jetson-inference/c/tensorConvert.h
-- Copying /home/ttnano2/jetson-inference/c/tensorNet.h
-- Copying /home/ttnano2/jetson-inference/c/calibration/randInt8Calibrator.h
-- Copying /home/ttnano2/jetson-inference/c/tracking/objectTracker.h
-- Copying /home/ttnano2/jetson-inference/c/tracking/objectTrackerIOU.h
-- Copying /home/ttnano2/jetson-inference/c/tracking/objectTrackerKLT.h
-- Could NOT find Doxygen (missing: DOXYGEN_EXECUTABLE)
-- found Qt5Widgets version: 5.9.5
-- found Qt5Widgets defines: -DQT_WIDGETS_LIB;-DQT_GUI_LIB;-DQT_CORE_LIB
-- found Qt5Widgets library: Qt5::Widgets
-- found Qt5Widgets include:
/usr/include/aarch64-linux-gnu/qt5;/usr/include/aarch64-linux-gnu/qt5/QtWidgets;/usr/include/aarch64-linux-gnu/qt5/QtGui;/usr/include/aarch64-linux-gnu/qt5/QtCore;/u
sr/lib/aarch64-linux-gnu/qt5//mkspecs/linux-g++
-- camera-capture: building as submodule of /home/ttnano2/jetson-inference/tools
-- jetson-utils: building as submodule, /home/ttnano2/jetson-inference
-- nvbuf_utils: /usr/lib/aarch64-linux-gnu/tegra/libnvbuf_utils.so
-- NVMM zero-copy memory: ENABLE_NVMM=ON
-- Copying /home/ttnano2/jetson-inference/utils/alphanum.h
-- Copying /home/ttnano2/jetson-inference/utils/commandLine.h
-- Copying /home/ttnano2/jetson-inference/utils/csvReader.h
-- Copying /home/ttnano2/jetson-inference/utils/csvWriter.h
-- Copying /home/ttnano2/jetson-inference/utils/filesystem.h
-- Copying /home/ttnano2/jetson-inference/utils/logging.h
-- Copying /home/ttnano2/jetson-inference/utils/mat33.h
-- Copying /home/ttnano2/jetson-inference/utils/pi.h
-- Copying /home/ttnano2/jetson-inference/utils/rand.h
-- Copying /home/ttnano2/jetson-inference/utils/timespec.h
-- Copying /home/ttnano2/jetson-inference/utils/xml.h
-- Copying /home/ttnano2/jetson-inference/utils/csvReader.hpp
-- Copying /home/ttnano2/jetson-inference/utils/csvWriter.hpp
-- Copying /home/ttnano2/jetson-inference/utils/json.hpp
-- Copying /home/ttnano2/jetson-inference/utils/camera/gstCamera.h
-- Copying /home/ttnano2/jetson-inference/utils/camera/v4l2Camera.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstBufferManager.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstDecoder.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstEncoder.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstUtility.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/gstWebRTC.h
-- Copying /home/ttnano2/jetson-inference/utils/codec/nvbuf_utils.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaBayer.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaColormap.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaColorspace.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaCrop.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaDraw.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaFilterMode.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaFont.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaGrayscale.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaMappedMemory.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaMath.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaNormalize.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaOverlay.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaPointCloud.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaRGB.h

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-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaResize.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaUtility.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaVector.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaWarp.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaYUV.h
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaAlphaBlend.cuh
-- Copying /home/ttnano2/jetson-inference/utils/cuda/cudaFilterMode.cuh
-- Copying /home/ttnano2/jetson-inference/utils/display/glBuffer.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glCamera.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glDisplay.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glEvents.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glTexture.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glUtility.h
-- Copying /home/ttnano2/jetson-inference/utils/display/glWidget.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageFormat.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageIO.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageLoader.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageWriter.h
-- Copying /home/ttnano2/jetson-inference/utils/image/loadImage.h
-- Copying /home/ttnano2/jetson-inference/utils/image/imageFormat.inl
-- Copying /home/ttnano2/jetson-inference/utils/input/devInput.h
-- Copying /home/ttnano2/jetson-inference/utils/input/devJoystick.h
-- Copying /home/ttnano2/jetson-inference/utils/input/devKeyboard.h
-- Copying /home/ttnano2/jetson-inference/utils/network/Endian.h
-- Copying /home/ttnano2/jetson-inference/utils/network/IPv4.h
-- Copying /home/ttnano2/jetson-inference/utils/network/IPv6.h
-- Copying /home/ttnano2/jetson-inference/utils/network/Networking.h
-- Copying /home/ttnano2/jetson-inference/utils/network/RTSPServer.h
-- Copying /home/ttnano2/jetson-inference/utils/network/Socket.h
-- Copying /home/ttnano2/jetson-inference/utils/network/URI.h
-- Copying /home/ttnano2/jetson-inference/utils/network/WebRTCServer.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Event.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Mutex.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Process.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/RingBuffer.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Thread.h
-- Copying /home/ttnano2/jetson-inference/utils/threads/Event.inl
-- Copying /home/ttnano2/jetson-inference/utils/threads/Mutex.inl
-- Copying /home/ttnano2/jetson-inference/utils/threads/RingBuffer.inl
-- Copying /home/ttnano2/jetson-inference/utils/video/videoOptions.h
-- Copying /home/ttnano2/jetson-inference/utils/video/videoOutput.h
-- Copying /home/ttnano2/jetson-inference/utils/video/videoSource.h
-- trying to build Python bindings for Python versions: 2.7;3.6;3.7
-- detecting Python 2.7...
-- found Python version: 2.7 (2.7.17)
-- found Python include: /usr/include/python2.7
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython2.7.so
-- CMake module path: /home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python2.7/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python2.7/dist-packages/numpy/core/include
-- detecting Python 3.6...
-- found Python version: 3.6 (3.6.9)
-- found Python include: /usr/include/python3.6m
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython3.6m.so
-- CMake module path: /home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python3/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python3/dist-packages/numpy/core/include
-- detecting Python 3.7...
-- Python 3.7 wasn't found
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-array-interface.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-examples.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-from-cv.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-from-numpy.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-from-pytorch.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-to-cv.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-to-numpy.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/cuda-to-pytorch.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-display.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-logging.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-video.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/video-viewer.py
-- Copying /home/ttnano2/jetson-inference/utils/python/examples/test-cuda.sh
-- trying to build Python bindings for Python versions: 2.7;3.6;3.7
-- detecting Python 2.7...
-- found Python version: 2.7 (2.7.17)
-- found Python include: /usr/include/python2.7
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython2.7.so
-- CMake module path:
/home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/python/bindings;/home/ttnano2/jetson-inference/python/bindings/../../utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python2.7/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python2.7/dist-packages/numpy/core/include
-- detecting Python 3.6...
-- found Python version: 3.6 (3.6.9)
-- found Python include: /usr/include/python3.6m
-- found Python library: /usr/lib/aarch64-linux-gnu/libpython3.6m.so
-- CMake module path:
/home/ttnano2/jetson-inference/utils/cuda;/home/ttnano2/jetson-inference/python/bindings;/home/ttnano2/jetson-inference/python/bindings/../../utils/python/bindings
-- NumPy ver. 1.13.3 found (include: /usr/lib/python3/dist-packages/numpy/core/include)
-- found NumPy version: 1.13.3
-- found NumPy include: /usr/lib/python3/dist-packages/numpy/core/include
-- detecting Python 3.7...
-- Python 3.7 wasn't found
```

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-- Copying /home/ttnano2/jetson-inference/python/examples/actionnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/backgroundnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/depthnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/depthnet_utils.py
-- Copying /home/ttnano2/jetson-inference/python/examples/detectnet-snap.py
-- Copying /home/ttnano2/jetson-inference/python/examples/detectnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/imagenet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/my-detection.py
-- Copying /home/ttnano2/jetson-inference/python/examples/my-recognition.py
-- Copying /home/ttnano2/jetson-inference/python/examples/posenet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/segnet.py
-- Copying /home/ttnano2/jetson-inference/python/examples/segnet_utils.py
-- linking jetson-inference with OpenCV 4.1.1
-- Configuring done
-- Generating done
-- Build files have been written to: /home/ttnano2/jetson-inference/build
[ 1%] Linking CXX shared library ../aarch64/lib/libjetson-utils.so
[ 39%] Built target jetson-utils
[ 40%] Linking CXX shared library aarch64/lib/libjetson-inference.so
[ 57%] Built target jetson-inference
[ 58%] Linking CXX executable ../aarch64/bin/imagenet
[ 58%] Built target imagenet
[ 59%] Linking CXX executable ../aarch64/bin/depthnet
[ 59%] Built target depthnet
[ 60%] Linking CXX executable ../aarch64/bin/detectnet
[ 61%] Built target detectnet
[ 62%] Linking CXX executable ../aarch64/bin/posenet
[ 63%] Built target posenet
[ 64%] Linking CXX executable ../aarch64/bin/segnet
[ 64%] Built target segnet
[ 65%] Linking CXX executable ../aarch64/bin/actionnet
[ 65%] Built target actionnet
[ 65%] Linking CXX executable ../aarch64/bin/backgroundnet
[ 66%] Built target backgroundnet
[ 67%] Automatic MOC for target camera-capture
[ 67%] Built target camera-capture_autogen
[ 68%] Linking CXX executable ../aarch64/bin/camera-capture
[ 72%] Built target camera-capture
[ 73%] Linking CXX shared library ../../aarch64/lib/python/2.7/jetson_utils_python.so
[ 78%] Built target jetson-utils-python-27
[ 78%] Linking CXX shared library ../../aarch64/lib/python/3.6/jetson_utils_python.so
[ 84%] Built target jetson-utils-python-36
[ 85%] Linking CXX executable ../../aarch64/bin/video-viewer
[ 86%] Built target video-viewer
[ 87%] Linking CXX shared library ../aarch64/lib/python/2.7/jetson_inference_python.so
[ 93%] Built target jetson-inference-python-27
[ 94%] Linking CXX shared library ../aarch64/lib/python/3.6/jetson_inference_python.so
[100%] Built target jetson-inference-python-36
Install the project...
-- Install configuration: ""
-- Installing: /usr/local/include/jetson-inference/actionNet.h
-- Installing: /usr/local/include/jetson-inference/backgroundNet.h
-- Installing: /usr/local/include/jetson-inference/depthNet.h
-- Installing: /usr/local/include/jetson-inference/detectNet.h
-- Installing: /usr/local/include/jetson-inference/imageNet.h
-- Installing: /usr/local/include/jetson-inference/modelDownloader.h
-- Installing: /usr/local/include/jetson-inference/poseNet.h
-- Installing: /usr/local/include/jetson-inference/segNet.h
-- Installing: /usr/local/include/jetson-inference/tensorConvert.h
-- Installing: /usr/local/include/jetson-inference/tensorNet.h
-- Installing: /usr/local/include/jetson-inference/randInt8Calibrator.h
-- Installing: /usr/local/include/jetson-inference/objectTracker.h
-- Installing: /usr/local/include/jetson-inference/objectTrackerIOU.h
-- Installing: /usr/local/include/jetson-inference/objectTrackerKLT.h
-- Installing: /usr/local/lib/libjetson-inference.so
-- Set runtime path of "/usr/local/lib/libjetson-inference.so" to ""
-- Installing: /usr/local/share/jetson-inference/cmake/jetson-inferenceConfig.cmake
-- Installing: /usr/local/share/jetson-inference/cmake/jetson-inferenceConfig-noconfig.cmake
-- Installing: /usr/local/bin/imagenet
-- Set runtime path of "/usr/local/bin/imagenet" to ""
-- Installing: /usr/local/bin/depthnet
-- Set runtime path of "/usr/local/bin/depthnet" to ""
-- Installing: /usr/local/bin/detectnet
-- Set runtime path of "/usr/local/bin/detectnet" to ""
-- Installing: /usr/local/bin/posenet
-- Set runtime path of "/usr/local/bin/posenet" to ""
-- Installing: /usr/local/bin/segnet
-- Set runtime path of "/usr/local/bin/segnet" to ""
-- Installing: /usr/local/bin/actionnet
-- Set runtime path of "/usr/local/bin/actionnet" to ""
-- Installing: /usr/local/bin/backgroundnet
-- Set runtime path of "/usr/local/bin/backgroundnet" to ""
-- Installing: /usr/local/bin/test-models.py
-- Installing: /usr/local/bin/tao-model-downloader.sh
-- Installing: /usr/local/bin/l4t_version.sh
-- Installing: /usr/local/bin/camera-capture
-- Set runtime path of "/usr/local/bin/camera-capture" to ""
-- Installing: /usr/local/include/jetson-utils/alphanum.h
-- Installing: /usr/local/include/jetson-utils/commandLine.h
-- Installing: /usr/local/include/jetson-utils/csvReader.h
-- Installing: /usr/local/include/jetson-utils/csvWriter.h
-- Installing: /usr/local/include/jetson-utils/filesystem.h
-- Installing: /usr/local/include/jetson-utils/logging.h
-- Installing: /usr/local/include/jetson-utils/mat33.h
-- Installing: /usr/local/include/jetson-utils/pi.h
```

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-- Installing: /usr/local/include/jetson-utils/rand.h
-- Installing: /usr/local/include/jetson-utils/timespec.h
-- Installing: /usr/local/include/jetson-utils/xml.h
-- Installing: /usr/local/include/jetson-utils/csvReader.hpp
-- Installing: /usr/local/include/jetson-utils/csvWriter.hpp
-- Installing: /usr/local/include/jetson-utils/json.hpp
-- Installing: /usr/local/include/jetson-utils/gstCamera.h
-- Installing: /usr/local/include/jetson-utils/v4l2Camera.h
-- Installing: /usr/local/include/jetson-utils/gstBufferManager.h
-- Installing: /usr/local/include/jetson-utils/gstDecoder.h
-- Installing: /usr/local/include/jetson-utils/gstEncoder.h
-- Installing: /usr/local/include/jetson-utils/gstUtility.h
-- Installing: /usr/local/include/jetson-utils/gstWebRTC.h
-- Installing: /usr/local/include/jetson-utils/nvbuf_utils.h
-- Installing: /usr/local/include/jetson-utils/cudaBayer.h
-- Installing: /usr/local/include/jetson-utils/cudaColormap.h
-- Installing: /usr/local/include/jetson-utils/cudaColorspace.h
-- Installing: /usr/local/include/jetson-utils/cudaCrop.h
-- Installing: /usr/local/include/jetson-utils/cudaDraw.h
-- Installing: /usr/local/include/jetson-utils/cudaFilterMode.h
-- Installing: /usr/local/include/jetson-utils/cudaFont.h
-- Installing: /usr/local/include/jetson-utils/cudaGrayscale.h
-- Installing: /usr/local/include/jetson-utils/cudaMappedMemory.h
-- Installing: /usr/local/include/jetson-utils/cudaMath.h
-- Installing: /usr/local/include/jetson-utils/cudaNormalize.h
-- Installing: /usr/local/include/jetson-utils/cudaOverlay.h
-- Installing: /usr/local/include/jetson-utils/cudaPointCloud.h
-- Installing: /usr/local/include/jetson-utils/cudaRGB.h
-- Installing: /usr/local/include/jetson-utils/cudaResize.h
-- Installing: /usr/local/include/jetson-utils/cudaUtility.h
-- Installing: /usr/local/include/jetson-utils/cudaVector.h
-- Installing: /usr/local/include/jetson-utils/cudaWarp.h
-- Installing: /usr/local/include/jetson-utils/cudaYUV.h
-- Installing: /usr/local/include/jetson-utils/cudaAlphaBlend.cuh
-- Installing: /usr/local/include/jetson-utils/cudaFilterMode.cuh
-- Installing: /usr/local/include/jetson-utils/glBuffer.h
-- Installing: /usr/local/include/jetson-utils/glCamera.h
-- Installing: /usr/local/include/jetson-utils/glDisplay.h
-- Installing: /usr/local/include/jetson-utils/glEvents.h
-- Installing: /usr/local/include/jetson-utils/glTexture.h
-- Installing: /usr/local/include/jetson-utils/glUtility.h
-- Installing: /usr/local/include/jetson-utils/glWidget.h
-- Installing: /usr/local/include/jetson-utils/imageFormat.h
-- Installing: /usr/local/include/jetson-utils/imageIO.h
-- Installing: /usr/local/include/jetson-utils/imageLoader.h
-- Installing: /usr/local/include/jetson-utils/imageWriter.h
-- Installing: /usr/local/include/jetson-utils/loadImage.h
-- Installing: /usr/local/include/jetson-utils/imageFormat.inl
-- Installing: /usr/local/include/jetson-utils/devInput.h
-- Installing: /usr/local/include/jetson-utils/devJoystick.h
-- Installing: /usr/local/include/jetson-utils/devKeyboard.h
-- Installing: /usr/local/include/jetson-utils/Endian.h
-- Installing: /usr/local/include/jetson-utils/IPv4.h
-- Installing: /usr/local/include/jetson-utils/IPv6.h
-- Installing: /usr/local/include/jetson-utils/Networking.h
-- Installing: /usr/local/include/jetson-utils/RTSPServer.h
-- Installing: /usr/local/include/jetson-utils/Socket.h
-- Installing: /usr/local/include/jetson-utils/URI.h
-- Installing: /usr/local/include/jetson-utils/WebRTCServer.h
-- Installing: /usr/local/include/jetson-utils/Event.h
-- Installing: /usr/local/include/jetson-utils/Mutex.h
-- Installing: /usr/local/include/jetson-utils/Process.h
-- Installing: /usr/local/include/jetson-utils/RingBuffer.h
-- Installing: /usr/local/include/jetson-utils/Thread.h
-- Installing: /usr/local/include/jetson-utils/Event.inl
-- Installing: /usr/local/include/jetson-utils/Mutex.inl
-- Installing: /usr/local/include/jetson-utils/RingBuffer.inl
-- Installing: /usr/local/include/jetson-utils/videoOptions.h
-- Installing: /usr/local/include/jetson-utils/videoOutput.h
-- Installing: /usr/local/include/jetson-utils/videoSource.h
-- Installing: /usr/local/lib/libjetson-utils.so
-- Set runtime path of "/usr/local/lib/libjetson-utils.so" to ""
-- Installing: /usr/local/share/jetson-utils/cmake/jetson-utilsConfig.cmake
-- Installing: /usr/local/share/jetson-utils/cmake/jetson-utilsConfig-noconfig.cmake
-- Installing: /usr/local/bin/cuda-array-interface.py
-- Installing: /usr/local/bin/cuda-examples.py
-- Installing: /usr/local/bin/cuda-from-cv.py
-- Installing: /usr/local/bin/cuda-from-numpy.py
-- Installing: /usr/local/bin/cuda-from-pytorch.py
-- Installing: /usr/local/bin/cuda-to-cv.py
-- Installing: /usr/local/bin/cuda-to-numpy.py
-- Installing: /usr/local/bin/cuda-to-pytorch.py
-- Installing: /usr/local/bin/test-display.py
-- Installing: /usr/local/bin/test-logging.py
-- Installing: /usr/local/bin/test-video.py
-- Installing: /usr/local/bin/video-viewer.py
-- Installing: /usr/local/bin/test-cuda.sh
-- Installing: /usr/lib/python2.7/dist-packages/jetson_utils_python.so
-- Set runtime path of "/usr/lib/python2.7/dist-packages/jetson_utils_python.so" to ""
-- Up-to-date: /usr/lib/python2.7/dist-packages/Jetson
-- Installing: /usr/lib/python2.7/dist-packages/Jetson/__init__.py
-- Up-to-date: /usr/lib/python2.7/dist-packages/Jetson/Utils
-- Installing: /usr/lib/python2.7/dist-packages/Jetson/Utils/__init__.py
-- Up-to-date: /usr/lib/python2.7/dist-packages/jetson
-- Installing: /usr/lib/python2.7/dist-packages/jetson/__init__.py
```

```
-- Up-to-date: /usr/lib/python2.7/dist-packages/jetson/Utils
-- Installing: /usr/lib/python2.7/dist-packages/jetson/Utils/__init__.py
-- Up-to-date: /usr/lib/python2.7/dist-packages/jetson_utils
-- Installing: /usr/lib/python2.7/dist-packages/jetson_utils/__init__.py
-- Installing: /usr/lib/python3.6/dist-packages/jetson_utils_python.so
-- Set runtime path of "/usr/lib/python3.6/dist-packages/jetson_utils_python.so" to ""
-- Up-to-date: /usr/lib/python3.6/dist-packages/Jetson
-- Installing: /usr/lib/python3.6/dist-packages/Jetson/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/Jetson/Utils
-- Installing: /usr/lib/python3.6/dist-packages/Jetson/Utils/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/jetson
-- Installing: /usr/lib/python3.6/dist-packages/jetson/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/jetson/Utils
-- Installing: /usr/lib/python3.6/dist-packages/jetson/Utils/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/jetson_utils
-- Installing: /usr/lib/python3.6/dist-packages/jetson_utils/__init__.py
-- Installing: /usr/local/bin/video-viewer
-- Set runtime path of "/usr/local/bin/video-viewer" to ""
-- Installing: /usr/local/bin/actionnet.py
-- Installing: /usr/local/bin/backgroundnet.py
-- Installing: /usr/local/bin/depthnet.py
-- Installing: /usr/local/bin/depthnet_utils.py
-- Installing: /usr/local/bin/detectnet-snap.py
-- Installing: /usr/local/bin/detectnet.py
-- Installing: /usr/local/bin/imagenet.py
-- Installing: /usr/local/bin/my-detection.py
-- Installing: /usr/local/bin/my-recognition.py
-- Installing: /usr/local/bin/posenet.py
-- Installing: /usr/local/bin/segnet.py
-- Installing: /usr/local/bin/segnet_utils.py
-- Installing: /usr/lib/python2.7/dist-packages/jetson_inference_python.so
-- Set runtime path of "/usr/lib/python2.7/dist-packages/jetson_inference_python.so" to ""
-- Up-to-date: /usr/lib/python2.7/dist-packages/Jetson
-- Up-to-date: /usr/lib/python2.7/dist-packages/Jetson/Inference
-- Installing: /usr/lib/python2.7/dist-packages/Jetson/Inference/__init__.py
-- Installing: /usr/lib/python2.7/dist-packages/Jetson/__init__.py
-- Up-to-date: /usr/lib/python2.7/dist-packages/jetson
-- Installing: /usr/lib/python2.7/dist-packages/jetson/__init__.py
-- Up-to-date: /usr/lib/python2.7/dist-packages/jetson/inference
-- Installing: /usr/lib/python2.7/dist-packages/jetson/inference/__init__.py
-- Up-to-date: /usr/lib/python2.7/dist-packages/jetson_inference
-- Installing: /usr/lib/python2.7/dist-packages/jetson_inference/__init__.py
-- Installing: /usr/lib/python3.6/dist-packages/jetson_inference_python.so
-- Set runtime path of "/usr/lib/python3.6/dist-packages/jetson_inference_python.so" to ""
-- Up-to-date: /usr/lib/python3.6/dist-packages/Jetson
-- Up-to-date: /usr/lib/python3.6/dist-packages/Jetson/Inference
-- Installing: /usr/lib/python3.6/dist-packages/Jetson/Inference/__init__.py
-- Installing: /usr/lib/python3.6/dist-packages/Jetson/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/jetson
-- Installing: /usr/lib/python3.6/dist-packages/jetson/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/jetson/inference
-- Installing: /usr/lib/python3.6/dist-packages/jetson/inference/__init__.py
-- Up-to-date: /usr/lib/python3.6/dist-packages/jetson_inference
-- Installing: /usr/lib/python3.6/dist-packages/jetson_inference/__init__.py
ttnano2@ttnano2-desktop:~/jetson-inference/build$
```

@700 ldconfig

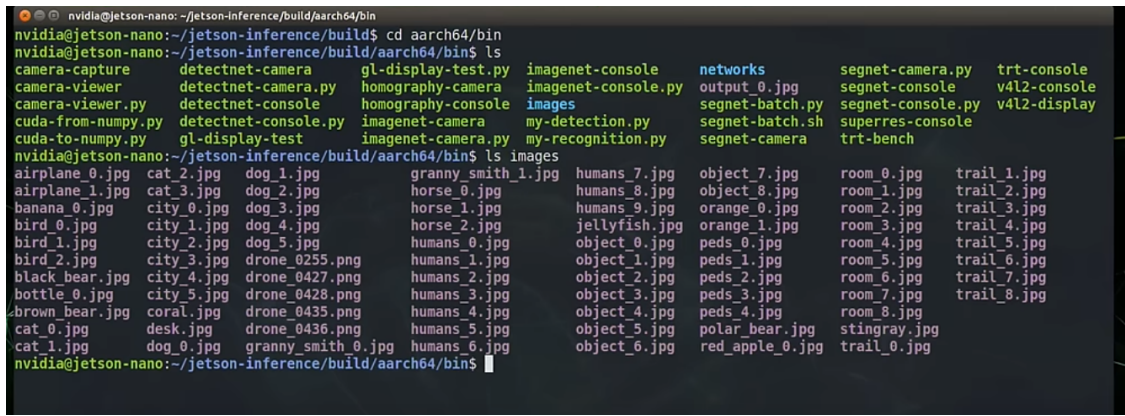
```
ttnano2@ttnano2-desktop:~/jetson-inference/build$ sudo ldconfig
ttnano2@ttnano2-desktop:~/jetson-inference/build$
```

```
ttnano2@ttnano2-desktop:~/jetson-inference/build$ cd aarch64/
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64$ ls
bin  include  lib
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64$ cd bin
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin$ ls
actionnet          cuda-examples.py  cuda-to-pytorch.py  detectnet-snap.py  my-recognition.py  segnet_utils.py      test-video.py
actionnet.py       cuda-from-cv.py   depthnet            imagenet           networks           tao-model-downloader.sh  video-viewer
backgroundnet      cuda-from-numpy.py  depthnet.py        imagenet.py        posenet            test-cuda.sh          video-viewer.py
backgroundnet.py   cuda-from-pytorch.py  depthnet_utils.py  images            posenet.py         test-display.py
camera-capture     cuda-to-cv.py      detectnet           l4t_version.sh    segnet             test-logging.py
cuda-array-interface.py  cuda-to-numpy.py  detectnet.py       my-detection.py   segnet.py          test-models.py
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin$ ls images
airplane_0.jpg  city_0.jpg  drone_0427.png  fruit_18.jpg  granny_smith_1.jpg  humans_8.jpg  orange_1.jpg  room_4.jpg  trail_3.jpg
airplane_1.jpg  city_1.jpg  drone_0428.png  fruit_19.jpg  grass.jpg           humans_9.jpg  peds_0.jpg    room_5.jpg  trail_4.jpg
banana_0.jpg    city_2.jpg  drone_0435.png  fruit_1.jpg   horse_0.jpg         jellyfish.jpg  peds_1.jpg    room_6.jpg  trail_5.jpg
bird_0.jpg      city_3.jpg  drone_0436.png  fruit_20.jpg  horse_1.jpg         object_0.jpg   peds_2.jpg    room_7.jpg  trail_6.jpg
bird_1.jpg      city_4.jpg  fruit_0.jpg     fruit_2.jpg   horse_2.jpg         object_1.jpg   peds_3.jpg    room_8.jpg  trail_7.jpg
bird_2.jpg      city_5.jpg  fruit_10.jpg    fruit_3.jpg   humans_0.jpg        object_2.jpg   peds_4.jpg    snow.jpg    trail_8.jpg
black_bear.jpg  coral.jpg   fruit_11.jpg    fruit_4.jpg   humans_1.jpg        object_3.jpg   polar_bear.jpg  stingray.jpg
bottle_0.jpg    desk.jpg    fruit_12.jpg    fruit_5.jpg   humans_2.jpg        object_4.jpg   qa              strawberry_0.jpg
brown_bear.jpg  dog_0.jpg   fruit_13.jpg    fruit_6.jpg   humans_3.jpg        object_5.jpg   red_apple_0.jpg  strawberry_1.jpg
cat_0.jpg       dog_1.jpg   fruit_14.jpg    fruit_7.jpg   humans_4.jpg        object_6.jpg   room_0.jpg      test
cat_1.jpg       dog_2.jpg   fruit_15.jpg    fruit_8.jpg   humans_5.jpg        object_7.jpg   room_1.jpg      trail_0.jpg
cat_2.jpg       dog_3.jpg   fruit_16.jpg    fruit_9.jpg   humans_6.jpg        object_8.jpg   room_2.jpg      trail_1.jpg
cat_3.jpg       drone_0255.png  fruit_17.jpg  granny_smith_0.jpg  humans_7.jpg        orange_0.jpg   room_3.jpg      trail_2.jpg
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin$
```

@730 test some images

ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin\$./detectnet-console.py images/peds_0.jpg output_0.jpg
bash: ./detectnet-console.py: No such file or directory
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin\$

HIS



MINE:

ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin\$ ls
actionnet cuda-examples.py cuda-to-pytorch.py detectnet-snap.py my-recognition.py segnet_utils.py test-video.py
actionnet.py cuda-from-cv.py depthnet imagenet networks tao-model-downloader.sh video-viewer
backgroundnet cuda-from-numpy.py depthnet.py imagenet.py posenet test-cuda.sh video-viewer.py
backgroundnet.py cuda-from-pytorch.py depthnet_utils.py images posenet.py test-display.py
camera-capture cuda-to-cv.py detectnet l4t_version.sh segnet test-logging.py
cuda-array-interface.py cuda-to-numpy.py detectnet.py my-detection.py segnet.py test-models.py
ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin\$

@830 image load (detect examples)

ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin\$./detectnet.py images/peds_0.jpg output_0.jpg

Layer(Constant): Const, Tactic: 0, -> Const[Float(1,2)]
Layer(Reformat): Reformatting CopyNode for Input Tensor 0 to GridAnchor, Tactic: 0, Const[Float(1,2)] -> Reformatted Input Tensor 0 to GridAnchor[Float(-2,2)]
Layer(PluginV2): GridAnchor, Tactic: 0, Reformatted Input Tensor 0 to GridAnchor[Float(-2,2)] -> GridAnchor[Float(-2,2,4332,1)], GridAnchor_1[Float(-2,2,2400,1)], GridAnchor_2[Float(-2,2,600,1)], GridAnchor_3[Float(-2,2,216,1)], GridAnchor_4[Float(-2,2,96,1)], GridAnchor_5[Float(-2,2,24,1)]
Layer(Reformat): GridAnchor copy, Tactic: 0, GridAnchor[Float(-2,2,4332,1)] -> concat_priorbox[Half(-2,2,4332,1)]
Layer(Reformat): GridAnchor_1 copy, Tactic: 0, GridAnchor_1[Float(-2,2,2400,1)] -> concat_priorbox[Half(-2,2,2400,1)]
Layer(Reformat): GridAnchor_2 copy, Tactic: 1002, GridAnchor_2[Float(-2,2,600,1)] -> concat_priorbox[Half(-2,2,600,1)]
Layer(Reformat): GridAnchor_3 copy, Tactic: 0, GridAnchor_3[Float(-2,2,216,1)] -> concat_priorbox[Half(-2,2,216,1)]
Layer(Reformat): GridAnchor_4 copy, Tactic: 0, GridAnchor_4[Float(-2,2,96,1)] -> concat_priorbox[Half(-2,2,96,1)]
Layer(Reformat): GridAnchor_5 copy, Tactic: 1002, GridAnchor_5[Float(-2,2,24,1)] -> concat_priorbox[Half(-2,2,24,1)]
Layer(Reformat): Reformatting CopyNode for Input Tensor 0 to NMS, Tactic: 0, concat_box_conf[Float(-2,174447,1,1)] -> Reformatted Input Tensor 0 to NMS[Half(-2,174447,1,1)]
Layer(Reformat): Reformatting CopyNode for Input Tensor 1 to NMS, Tactic: 0, Squeeze[Float(-2,7668,1,1)] -> Reformatted Input Tensor 1 to NMS[Half(-2,7668,1,1)]
Layer(PluginV2): NMS, Tactic: 0, Reformatted Input Tensor 0 to NMS[Half(-2,174447,1,1)], Reformatted Input Tensor 1 to NMS[Half(-2,7668,1,1)], concat_priorbox[Half(-2,2,7668,1)] -> Reformatted Output Tensor 0 to NMS[Half(-2,1,100,7)], NMS_1[Float(-2,1,1,1)]
Layer(Reformat): Reformatting CopyNode for Output Tensor 0 to NMS, Tactic: 0, Reformatted Output Tensor 0 to NMS[Half(-2,1,100,7)] -> NMS[Float(-2,1,100,7)]
[TRT] [MemUsageChange] TensorRT-managed allocation in building engine: CPU +33, GPU +64, now: CPU 33, GPU 64 (MiB)
[TRT] device GPU, completed building CUDA engine
[TRT] Serializing timing cache. UUID = GPU-a220528a-4ef6-34d2-ac51-72ebc267ecf9, commit ID = 44fcd3a40ebbc3b
[TRT] Serialized 1098 timing cache entries
[TRT] saving timing cache to /usr/local/bin/networks/tensorrt.8201.timingcache (114312 bytes)
[TRT] Deleting timing cache: 1098 entries, 746 hits
[TRT] network profiling complete, saving engine cache to networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.1.1.8201.GPU.FP16.engine
[TRT] device GPU, completed saving engine cache to networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.1.1.8201.GPU.FP16.engine
[TRT] saving model checksum to networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.sha256sum
[TRT] sha256sum networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff | awk '{print \$1}' > networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.sha256sum
[TRT] device GPU, loaded networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff
[TRT] [MemUsageChange] Init CUDA: CPU +0, GPU +0, now: CPU 1115, GPU 3892 (MiB)
[TRT] Loaded engine size: 34 MiB
[TRT] Using cublas as a tactic source
[TRT] [MemUsageChange] Init cuBLAS/cuBLASLt: CPU +1, GPU +0, now: CPU 1116, GPU 3882 (MiB)
[TRT] Using cuDNN as a tactic source
[TRT] [MemUsageChange] Init cuDNN: CPU +0, GPU +0, now: CPU 1116, GPU 3882 (MiB)
[TRT] Deserialization required 159557 microseconds.
[TRT] [MemUsageChange] TensorRT-managed allocation in engine deserialization: CPU +0, GPU +33, now: CPU 0, GPU 33 (MiB)
[TRT] Using cublas as a tactic source
[TRT] [MemUsageChange] Init cuBLAS/cuBLASLt: CPU +0, GPU +0, now: CPU 1116, GPU 3882 (MiB)
[TRT] Using cuDNN as a tactic source
[TRT] [MemUsageChange] Init cuDNN: CPU +0, GPU +0, now: CPU 1116, GPU 3882 (MiB)
[TRT] Total per-runner device persistent memory is 22661632
[TRT] Total per-runner host persistent memory is 136960
[TRT] Allocated activation device memory of size 13360640
[TRT] [MemUsageChange] TensorRT-managed allocation in IExecutionContext creation: CPU +0, GPU +35, now: CPU 0, GPU 68 (MiB)
[TRT]
[TRT] CUDA engine context initialized on device GPU:
[TRT] -- layers 120
[TRT] -- maxBatchSize 1
[TRT] -- deviceMemory 13360640
[TRT] -- bindings 3
[TRT] binding 0
[TRT] -- index 0
[TRT] -- name 'Input'
[TRT] -- type FP32
[TRT] -- in/out INPUT
[TRT] -- # dims 3
[TRT] -- dim #0 3
[TRT] -- dim #1 300
[TRT] -- dim #2 300
[TRT] binding 1
[TRT] -- index 1
[TRT] -- name 'NMS'
[TRT] -- type FP32
[TRT] -- in/out OUTPUT
[TRT] -- # dims 3
[TRT] -- dim #0 1
[TRT] -- dim #1 100
[TRT] -- dim #2 7
[TRT] binding 2
[TRT] -- index 2
[TRT] -- name 'NMS_1'
[TRT] -- type FP32
[TRT] -- in/out OUTPUT
[TRT] -- # dims 3
[TRT] -- dim #0 1
[TRT] -- dim #1 1
[TRT] -- dim #2 1
[TRT]
[TRT] binding to input 0 Input binding index: 0
[TRT] binding to input 0 Input dims (b=1 c=3 h=300 w=300) size=1080000
[TRT] binding to output 0 NMS binding index: 1
[TRT] binding to output 0 NMS dims (b=1 c=1 h=100 w=7) size=2800
[TRT] binding to output 1 NMS_1 binding index: 2
[TRT] binding to output 1 NMS_1 dims (b=1 c=1 h=1 w=1) size=4
[TRT]
[TRT] device GPU, networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff initialized.
[TRT] W = 7 H = 100 C = 1
[TRT] detectNet -- maximum bounding boxes: 100
[TRT] loaded 91 class labels

[TRT] detectNet -- number of object classes: 91
[TRT] loaded 0 class colors
[TRT] didn't load expected number of class colors (0 of 91)
[TRT] filling in remaining 91 class colors with default colors
[image] loaded 'images/peds_0.jpg' (1920x1080, 3 channels)
detected 4 objects in image
<detectNet.Detection object>
-- Confidence: 0.984375
-- ClassID: 1
-- Left: 1074.38
-- Top: 109.16
-- Right: 1396.88
-- Bottom: 1002.48
-- Width: 322.5
-- Height: 893.32
-- Area: 288096
-- Center: (1235.62, 555.82)
<detectNet.Detection object>
-- Confidence: 0.697266
-- ClassID: 1
-- Left: 458.672
-- Top: 123.398
-- Right: 742.5
-- Bottom: 942.891
-- Width: 283.828
-- Height: 819.492
-- Area: 232595
-- Center: (600.586, 533.145)
<detectNet.Detection object>
-- Confidence: 0.976074
-- ClassID: 1
-- Left: 742.031
-- Top: 160.576
-- Right: 1021.88
-- Bottom: 941.836
-- Width: 279.844
-- Height: 781.26
-- Area: 218631
-- Center: (881.953, 551.206)
<detectNet.Detection object>
-- Confidence: 0.86084
-- ClassID: 1
-- Left: 1477.5
-- Top: 149.238
-- Right: 1721.25
-- Bottom: 914.941
-- Width: 243.75
-- Height: 765.703
-- Area: 186640
-- Center: (1599.38, 532.09)
[OpenGL] glDisplay -- set the window size to 1920x1080
[OpenGL] creating 1920x1080 texture (GL_RGB8 format, 6220800 bytes)
[cuda] registered openGL texture for interop access (1920x1080, GL_RGB8, 6220800 bytes)
[image] saved 'output_0.jpg' (1920x1080, 3 channels)

[TRT] -----
[TRT] Timing Report networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff
[TRT] -----
[TRT] Pre-Process CPU 0.07807ms CUDA 9.61479ms
[TRT] Network CPU 307.16827ms CUDA 290.32260ms
[TRT] Post-Process CPU 0.11912ms CUDA 0.11807ms
[TRT] Visualize CPU 770.59454ms CUDA 770.97919ms
[TRT] Total CPU 1077.95996ms CUDA 1071.03467ms
[TRT] -----

[TRT] note -- when processing a single image, run 'sudo jetson_clocks' before
to disable DVFS for more accurate profiling/timing measurements

ttnano2@ttnano2-desktop:~/jetson-inference/build/aarch64/bin\$

his

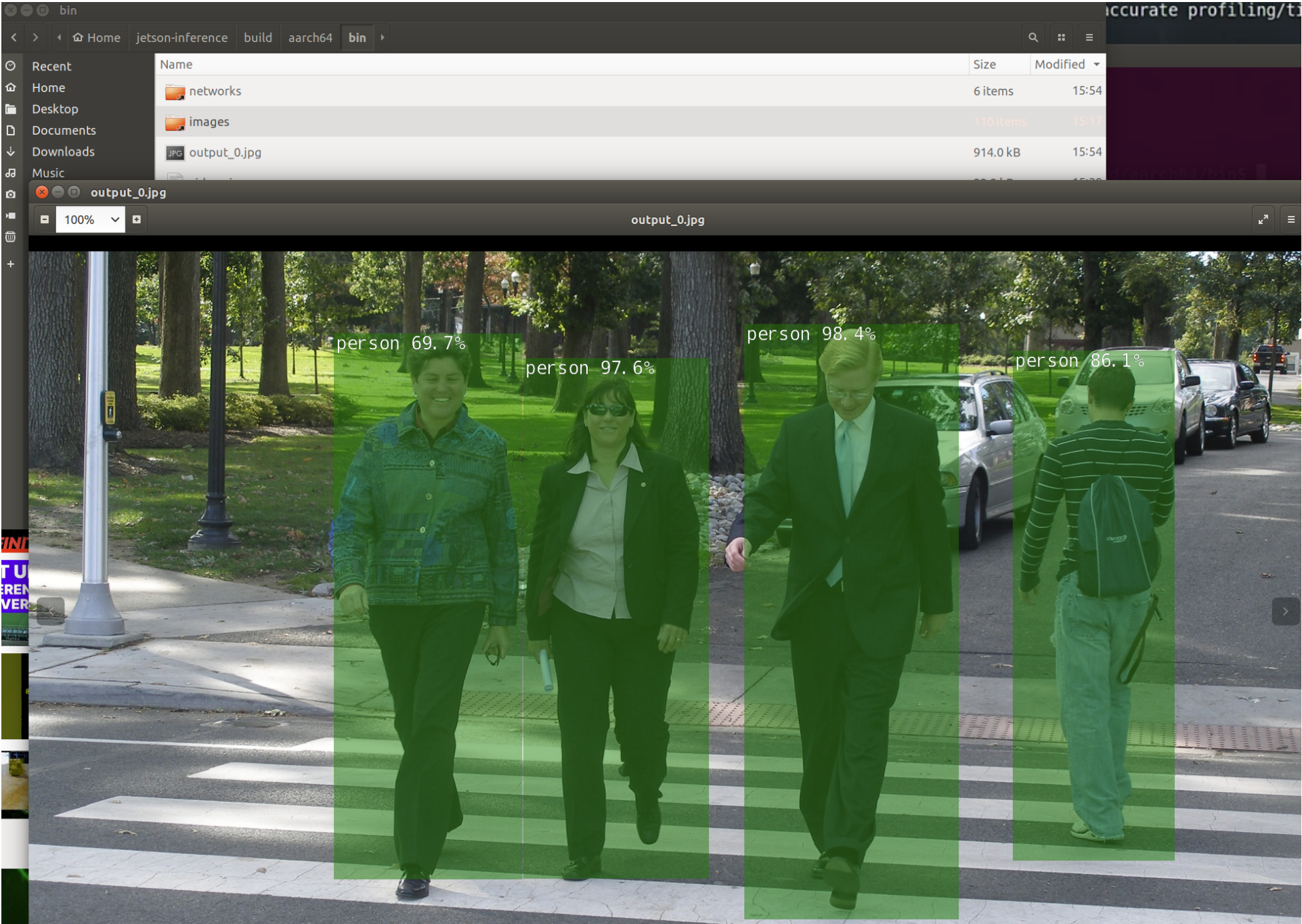
```
nvidia@jetson-nano: ~/jetson-inference/build/aarch64/bin
-- Height: 765.399
-- Area: 185915
-- Center: (1599.24, 532.202)

[TRT] -----
[TRT] Timing Report networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff
[TRT] -----
[TRT] Pre-Process   CPU    0.09370ms  CUDA   0.64703ms
[TRT] Network       CPU   44.16010ms  CUDA  43.61459ms
[TRT] Post-Process  CPU    0.04823ms  CUDA   0.04776ms
[TRT] Visualize     CPU  193.05859ms  CUDA  193.55739ms
[TRT] Total         CPU  237.36063ms  CUDA  237.86676ms
[TRT] -----

[TRT] note -- when processing a single image, run 'sudo jetson_clocks' before
to disable DVFS for more accurate profiling/timing measurements

jetson.utils -- freeing CUDA mapped memory
jetson.inference -- PyDetection_Dealloc()
jetson.inference -- PyDetection_Dealloc()
jetson.inference -- PyDetection_Dealloc()
jetson.inference -- PyDetection_Dealloc()
PyTensorNet_Dealloc()
nvidia@jetson-nano:~/jetson-inference/build/aarch64/bin$
```

MINE... wow it worked



@945 he does a few more.. skip

@1230 write code

v4l2-ctl --list-devices (0)

ttnano2@ttnano2-desktop:~\$ v4l2-ctl --list-devices
HD Pro Webcam C920 (usb-70090000.xusb-2.1):
/dev/video0

ttnano2@ttnano2-desktop:~\$

v4l2-ctl --device /dev/video0 --list-formats-ext

ttnano2@ttnano2-desktop:~\$ v4l2-ctl --device /dev/video0 --list-formats-ext
ioctl: VIDIOC_ENUM_FMT
Index : 0
Type : Video Capture
Pixel Format: 'YUYV'
Name : YUYV 4:2:2
Size: Discrete 640x480
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 160x90
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 160x120
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 176x144
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 320x180
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 320x240
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 352x288
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 432x240
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 640x360
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 800x448
Interval: Discrete 0.033s (30.000 fps)

Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 800x600
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 864x480
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 960x720
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 1024x576
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 1280x720
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 1600x896
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 1920x1080
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 2560x1472
Interval: Discrete 0.500s (2.000 fps)

Index : 1
Type : Video Capture
Pixel Format: 'MJPG' (compressed)
Name : Motion-JPEG

Size: Discrete 640x480
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 160x90
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 160x120
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 176x144
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 320x180
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 320x240
Interval: Discrete 0.033s (30.000 fps)
Interval: Discrete 0.042s (24.000 fps)
Interval: Discrete 0.050s (20.000 fps)
Interval: Discrete 0.067s (15.000 fps)
Interval: Discrete 0.100s (10.000 fps)
Interval: Discrete 0.133s (7.500 fps)
Interval: Discrete 0.200s (5.000 fps)
Size: Discrete 352x288

[illegible]

my-detection.py (from git)

```
from jetson_inference import detectNet
from jetson_utils import videoSource, videoOutput
```

```
net = detectNet("ssd-mobilenet-v2", threshold=0.5)
camera = videoSource("csi://0")      # '/dev/video0' for V4L2
display = videoOutput("display://0") # 'my_video.mp4' for file

while display.IsStreaming():
    img = camera.Capture()

    if img is None: # capture timeout
        continue

    detections = net.Detect(img)

    display.Render(img)
    display.SetStatus("Object Detection | Network {:.0f} FPS".format(net.GetNetworkFPS()))
```

my-detection.py (from video)

<https://youtu.be/bcM5AQSAzUY?t=1100>

```
import jetson.inference
import jetson.utils

net = jetson.inference.detectNet("ssd-mobilenet-v2", threshold=0.5)
camera = jetson.utils.gstCamera(1280, 720, "/dev/video0")    # '/dev/video0' for V4L2
display = jetson.utils.glDisplay()

while display.IsOpen():
    img, width, height = camera.CaptureRGBA()
    detections = net.Detect(img, width, height)

    display.RenderOnce(img, width, height)
    display.SetTitle("Object Detection | Network {:.0f} FPS".format(net.GetNetworkFPS()))
```

3 @2115 Run app

ttnano2@ttnano2-desktop:~/Downloads\$ python my-detection.py
warning: importing jetson.utils is deprecated. please 'import jetson_utils' instead.
warning: importing jetson.inference is deprecated. please 'import jetson_inference' instead.
jetson.inference -- detectNet loading custom model '(null)'

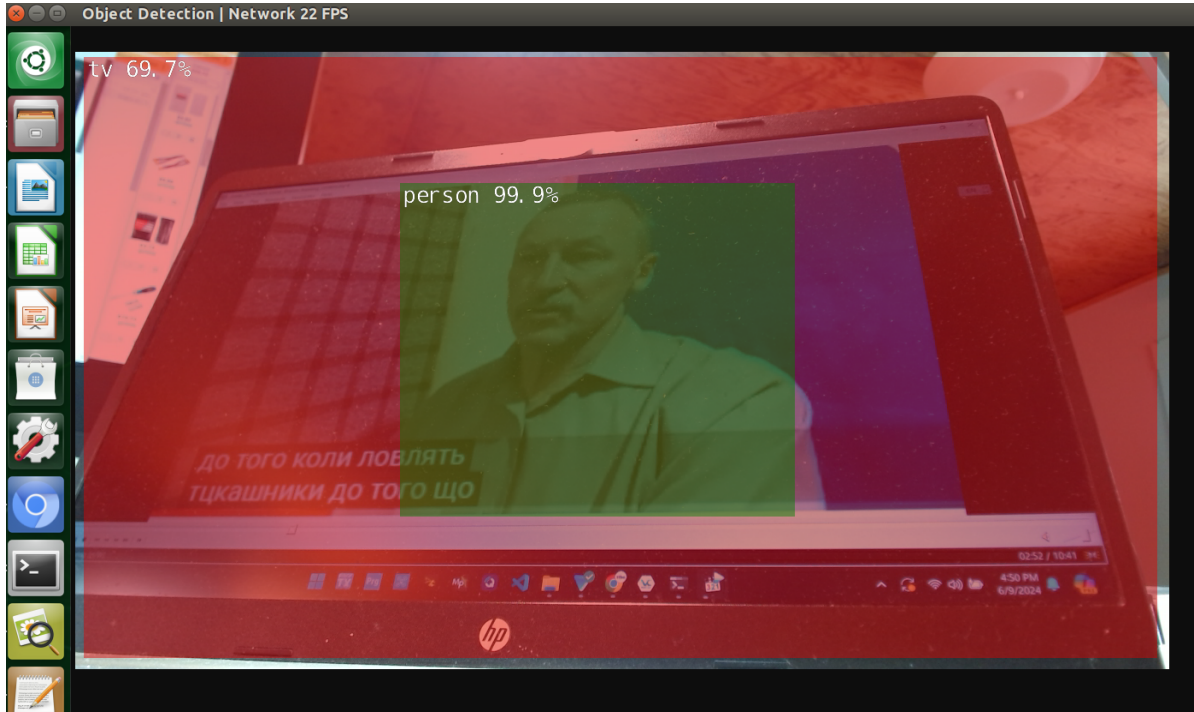
detectNet -- loading detection network model from:
-- model networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff
-- input_blob 'Input'
-- output_blob 'NMS'
-- output_count 'NMS_1'
-- class_labels networks/SSD-Mobilenet-v2/ssd_coco_labels.txt
-- threshold 0.500000
-- batch_size 1

[TRT] TensorRT version 8.2.1
[TRT] loading NVIDIA plugins...
[TRT] Registered plugin creator - ::GridAnchor_TRT version 1
[TRT] Registered plugin creator - ::GridAnchorRect_TRT version 1
[TRT] Registered plugin creator - ::NMS_TRT version 1
[TRT] Registered plugin creator - ::Reorg_TRT version 1
[TRT] Registered plugin creator - ::Region_TRT version 1
[TRT] Registered plugin creator - ::Clip_TRT version 1
[TRT] Registered plugin creator - ::LReLU_TRT version 1
[TRT] Registered plugin creator - ::PriorBox_TRT version 1
[TRT] Registered plugin creator - ::Normalize_TRT version 1
[TRT] Registered plugin creator - ::ScatterND version 1
[TRT] Registered plugin creator - ::RPROI_TRT version 1
[TRT] Registered plugin creator - ::BatchedNMS_TRT version 1
[TRT] Registered plugin creator - ::BatchedNMSDynamic_TRT version 1
[TRT] Could not register plugin creator - ::FlattenConcat_TRT version 1
[TRT] Registered plugin creator - ::CropAndResize version 1
[TRT] Registered plugin creator - ::DetectionLayer_TRT version 1
[TRT] Registered plugin creator - ::EfficientNMS_TRT version 1
[TRT] Registered plugin creator - ::EfficientNMS_ONNX_TRT version 1
[TRT] Registered plugin creator - ::EfficientNMS_TFTRT_TRT version 1
[TRT] Registered plugin creator - ::Proposal version 1
[TRT] Registered plugin creator - ::ProposalLayer_TRT version 1
[TRT] Registered plugin creator - ::PyramidROIAlign_TRT version 1
[TRT] Registered plugin creator - ::ResizeNearest_TRT version 1
[TRT] Registered plugin creator - ::Split version 1
[TRT] Registered plugin creator - ::SpecialSlice_TRT version 1
[TRT] Registered plugin creator - ::InstanceNormalization_TRT version 1
[TRT] completed loading NVIDIA plugins.
[TRT] detected model format - UFF (extension '.uff')
[TRT] desired precision specified for GPU: FASTEST
[TRT] requested fasted precision for device GPU without providing valid calibrator, disabling INT8
[TRT] [MemUsageChange] Init CUDA: CPU +230, GPU +0, now: CPU 254, GPU 3892 (MiB)
[TRT] [MemUsageSnapshot] Begin constructing builder kernel library: CPU 254 MiB, GPU 3885 MiB
[TRT] [MemUsageSnapshot] End constructing builder kernel library: CPU 284 MiB, GPU 3892 MiB
[TRT] native precisions detected for GPU: FP32, FP16
[TRT] selecting fastest native precision for GPU: FP16
[TRT] found engine cache file /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.1.1.8201.GPU.FP16.engine
[TRT] found model checksum /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.sha256sum
[TRT] echo "\$(cat /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.sha256sum)
/usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff" | sha256sum --check --status
[TRT] model matched checksum /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.sha256sum
[TRT] loading network plan from engine cache... /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff.1.1.8201.GPU.FP16.engine
[TRT] device GPU, loaded /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff
[TRT] [MemUsageChange] Init CUDA: CPU +0, GPU +0, now: CPU 289, GPU 3893 (MiB)
[TRT] Loaded engine size: 34 MiB
[TRT] Using cublas as a tactic source
[TRT] [MemUsageChange] Init cuBLAS/cuBLASLt: CPU +158, GPU -3, now: CPU 465, GPU 3883 (MiB)
[TRT] Using cuDNN as a tactic source
[TRT] [MemUsageChange] Init cuDNN: CPU +241, GPU -26, now: CPU 706, GPU 3857 (MiB)
[TRT] Deserialization required 34906419 microseconds.
[TRT] [MemUsageChange] TensorRT-managed allocation in engine deserialization: CPU +0, GPU +33, now: CPU 0, GPU 33 (MiB)
[TRT] Using cublas as a tactic source
[TRT] [MemUsageChange] Init cuBLAS/cuBLASLt: CPU +0, GPU +0, now: CPU 706, GPU 3850 (MiB)
[TRT] Using cuDNN as a tactic source
[TRT] [MemUsageChange] Init cuDNN: CPU +0, GPU -6, now: CPU 706, GPU 3844 (MiB)
[TRT] Total per-runner device persistent memory is 22661632
[TRT] Total per-runner host persistent memory is 136960
[TRT] Allocated activation device memory of size 13360640
[TRT] [MemUsageChange] TensorRT-managed allocation in IExecutionContext creation: CPU +0, GPU +35, now: CPU 0, GPU 68 (MiB)
[TRT]
[TRT] CUDA engine context initialized on device GPU:
[TRT] -- layers 120
[TRT] -- maxBatchSize 1
[TRT] -- deviceMemory 13360640
[TRT] -- bindings 3
[TRT] binding 0
[TRT] -- index 0
[TRT] -- name 'Input'
[TRT] -- type FP32
[TRT] -- in/out INPUT
[TRT] -- # dims 3
[TRT] -- dim #0 3
[TRT] -- dim #1 300

```
-- dim #2 300
[TRT] binding 1
-- index 1
-- name 'NMS'
-- type FP32
-- in/out OUTPUT
-- # dims 3
-- dim #0 1
-- dim #1 100
-- dim #2 7
[TRT] binding 2
-- index 2
-- name 'NMS_1'
-- type FP32
-- in/out OUTPUT
-- # dims 3
-- dim #0 1
-- dim #1 1
-- dim #2 1
[TRT]
[TRT] binding to input 0 Input binding index: 0
[TRT] binding to input 0 Input dims (b=1 c=3 h=300 w=300) size=1080000
[TRT] binding to output 0 NMS binding index: 1
[TRT] binding to output 0 NMS dims (b=1 c=1 h=100 w=7) size=2800
[TRT] binding to output 1 NMS_1 binding index: 2
[TRT] binding to output 1 NMS_1 dims (b=1 c=1 h=1 w=1) size=4
[TRT]
[TRT] device GPU, /usr/local/bin/networks/SSD-Mobilenet-v2/ssd_mobilenet_v2_coco.uff initialized.
[TRT] W = 7 H = 100 C = 1
[TRT] detectNet -- maximum bounding boxes: 100
[TRT] loaded 91 class labels
[TRT] detectNet -- number of object classes: 91
[TRT] loaded 0 class colors
[TRT] didn't load expected number of class colors (0 of 91)
[TRT] filling in remaining 91 class colors with default colors
[gstreamer] initialized gstreamer, version 1.14.5.0
[gstreamer] gstCamera -- attempting to create device v4l2:///dev/video0
[gstreamer] gstCamera -- found v4l2 device: HD Pro Webcam C920
[gstreamer] v4l2-proplist, device.path=(string)/dev/video0, udev-probed=(boolean>false, device.api=(string)v4l2, v4l2.device.driver=(string)uvcvideo, v4l2.device.card=(string)"HD\ Pro\ Webcam\ C920", v4l2.device.bus_info=(string)usb-70090000.xusb-2.1, v4l2.device.version=(uint)264701, v4l2.device.capabilities=(uint)2216689665, v4l2.device.device_caps=(uint)69206017;
[gstreamer] gstCamera -- found 35 caps for v4l2 device /dev/video0
[gstreamer] [0] video/x-raw, format=(string)YUY2, width=(int)2560, height=(int)1472, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction)2/1;
[gstreamer] [1] video/x-raw, format=(string)YUY2, width=(int)1920, height=(int)1080, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction)5/1;
[gstreamer] [2] video/x-raw, format=(string)YUY2, width=(int)1600, height=(int)896, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 15/2, 5/1 };
[gstreamer] [3] video/x-raw, format=(string)YUY2, width=(int)1280, height=(int)720, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 10/1, 15/2, 5/1 };
[gstreamer] [4] video/x-raw, format=(string)YUY2, width=(int)960, height=(int)720, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [5] video/x-raw, format=(string)YUY2, width=(int)1024, height=(int)576, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [6] video/x-raw, format=(string)YUY2, width=(int)800, height=(int)600, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [7] video/x-raw, format=(string)YUY2, width=(int)864, height=(int)480, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [8] video/x-raw, format=(string)YUY2, width=(int)800, height=(int)448, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [9] video/x-raw, format=(string)YUY2, width=(int)640, height=(int)480, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [10] video/x-raw, format=(string)YUY2, width=(int)640, height=(int)360, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [11] video/x-raw, format=(string)YUY2, width=(int)432, height=(int)240, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [12] video/x-raw, format=(string)YUY2, width=(int)352, height=(int)288, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [13] video/x-raw, format=(string)YUY2, width=(int)320, height=(int)240, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [14] video/x-raw, format=(string)YUY2, width=(int)320, height=(int)180, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [15] video/x-raw, format=(string)YUY2, width=(int)176, height=(int)144, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [16] video/x-raw, format=(string)YUY2, width=(int)160, height=(int)120, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [17] video/x-raw, format=(string)YUY2, width=(int)160, height=(int)90, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [18] image/jpeg, width=(int)1920, height=(int)1080, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [19] image/jpeg, width=(int)1600, height=(int)896, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [20] image/jpeg, width=(int)1280, height=(int)720, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [21] image/jpeg, width=(int)960, height=(int)720, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [22] image/jpeg, width=(int)1024, height=(int)576, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [23] image/jpeg, width=(int)800, height=(int)600, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [24] image/jpeg, width=(int)864, height=(int)480, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [25] image/jpeg, width=(int)800, height=(int)448, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [26] image/jpeg, width=(int)640, height=(int)480, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [27] image/jpeg, width=(int)640, height=(int)360, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [28] image/jpeg, width=(int)432, height=(int)240, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [29] image/jpeg, width=(int)352, height=(int)288, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [30] image/jpeg, width=(int)320, height=(int)240, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [31] image/jpeg, width=(int)320, height=(int)180, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [32] image/jpeg, width=(int)176, height=(int)144, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [33] image/jpeg, width=(int)160, height=(int)120, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] [34] image/jpeg, width=(int)160, height=(int)90, pixel-aspect-ratio=(fraction)1/1, framerate=(fraction){ 30/1, 24/1, 20/1, 15/1, 10/1, 15/2, 5/1 };
[gstreamer] gstCamera -- selected device profile: codec=MJPEG format=unknown width=1280 height=720 framerate=30
[gstreamer] gstCamera pipeline string:
[gstreamer] v4l2src device=/dev/video0 do-timestamp=true ! image/jpeg, width=(int)1280, height=(int)720, framerate=30/1 ! jpegdec name=decoder ! video/x-raw !
appsink name=mysink sync=false
[gstreamer] gstCamera successfully created device v4l2:///dev/video0
[OpenGL] glDisplay -- X screen 0 resolution: 3840x2160
```

[illegible]

```
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
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[gstreamer] gstreamer message qos ==> v4l2src0
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[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
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[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstreamer message qos ==> v4l2src0
^CTraceback (most recent call last):
  File "my-detection.py", line 11, in <module>
    detections = net.Detect(img, width, height)
KeyboardInterrupt
[gstreamer] gstreamer message qos ==> v4l2src0
[gstreamer] gstCamera -- stopping pipeline, transitioning to GST_STATE_NULL
[gstreamer] gstCamera -- pipeline stopped
^C
ttnano2@ttnano2-desktop:~/Downloads$
```



@2150 detect him, chair, etc

