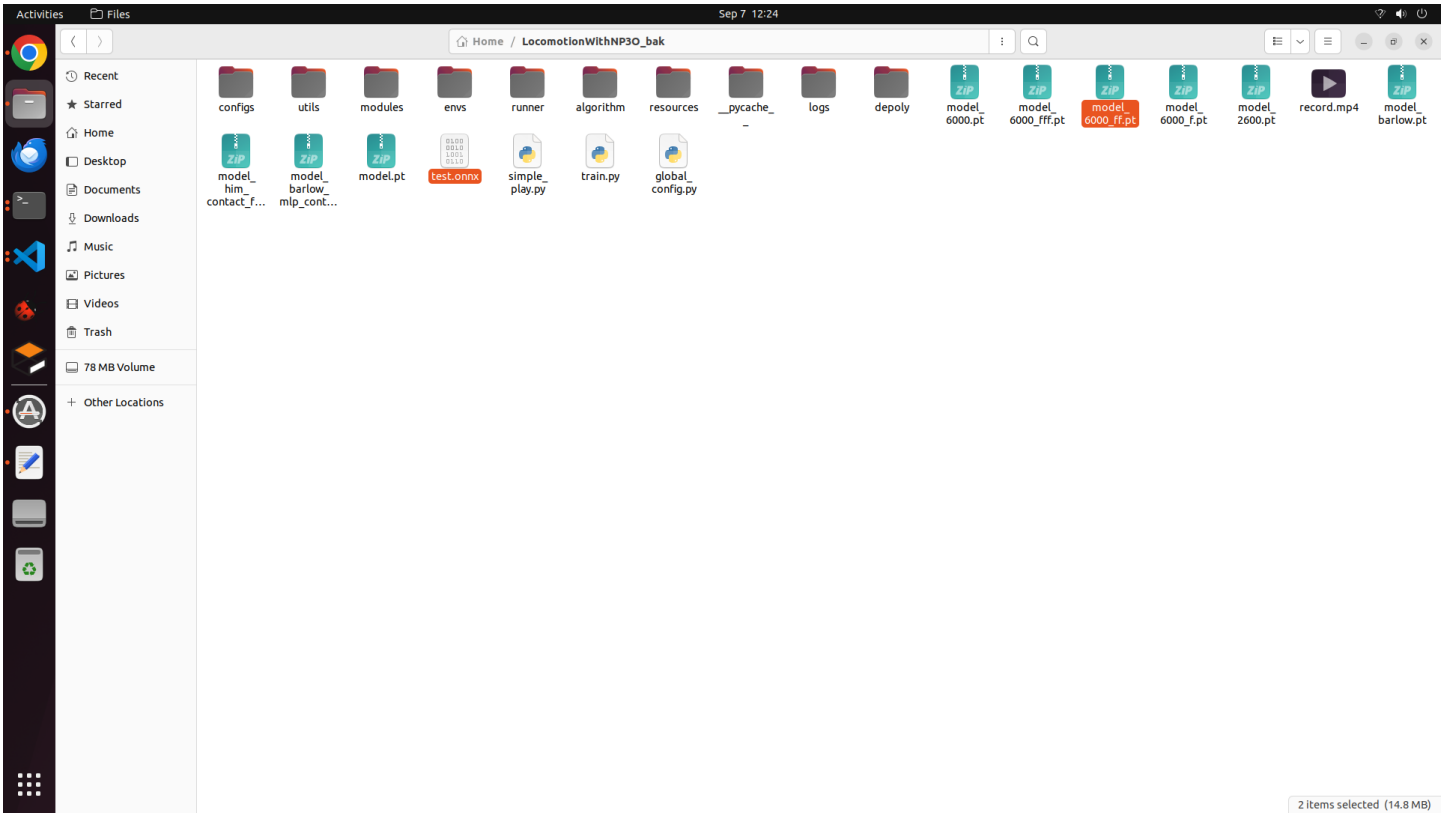
四足强化学习仿真部署

0.onnx文件使用(可以忽略)

0.1 onnx文件做一次推理，给出输入看输出



缺少numpy和onnx，利用pip安装，将test.onnx和如下脚本放在一个路径下

pip install onnx

pip install onnxruntime

pip install numpy

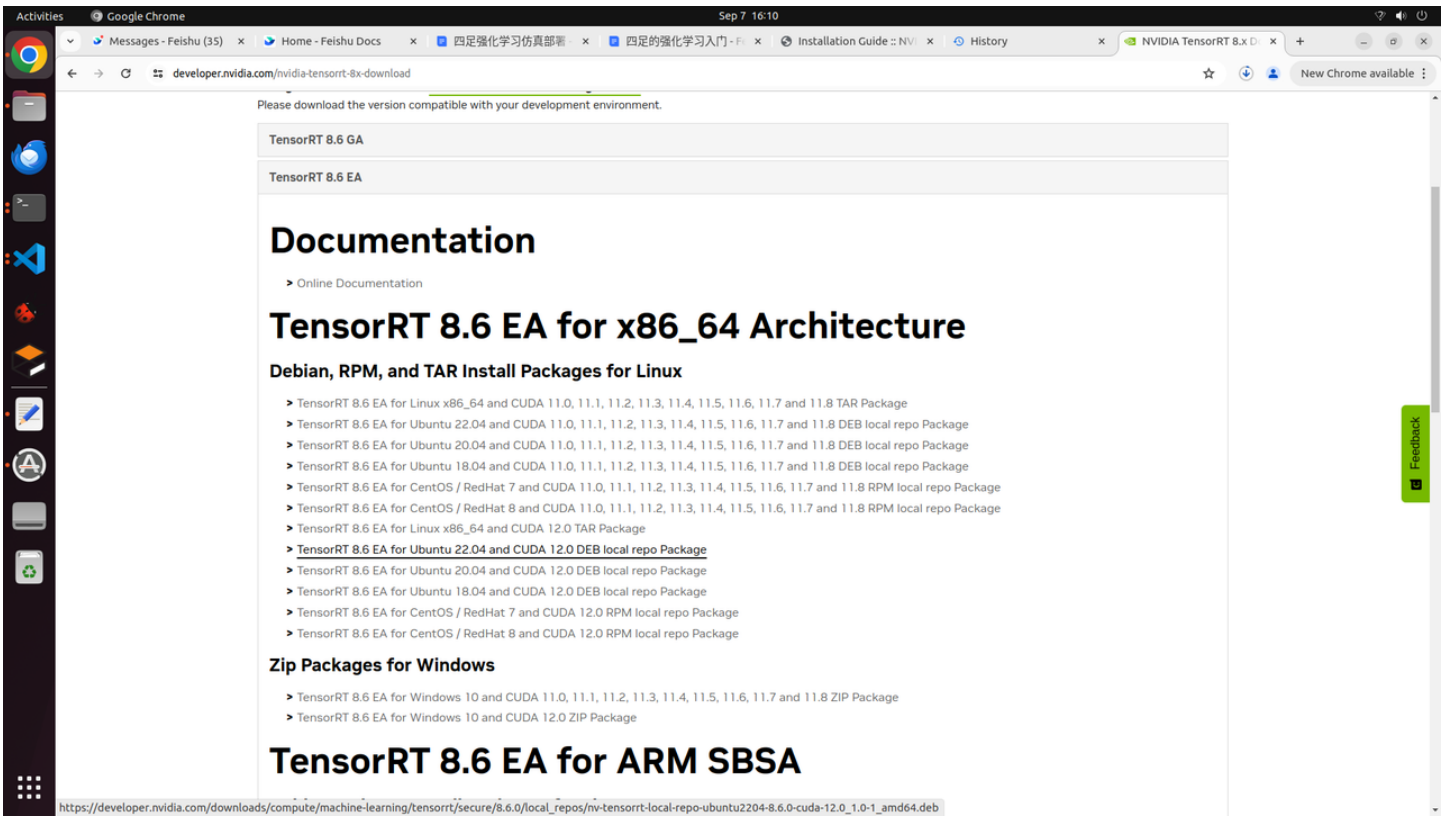
onnx_test.py

1. Tensortt

1.1我的cuda版本是12.0,所以我安装tensorrt8.6.0

软件

https://developer.nvidia.com/nvidia-tensorrt-8x-download



安装

https://docs.nvidia.com/deeplearning/tensorrt/install-guide/index.html

1. Install CUDA according to the CUDA installation instructions.

2. Download the TensorRT local repo file that matches the Ubuntu version and CPU architecture that you are using.

3. Install TensorRT from the Debian local repo package. Replace `ubuntuxx04`, `10.x.x`, and `cuda-x.x` with your specific OS, Tenso
   JetPack users also need to replace `nv-tensorrt-local-repo` with `nv-tensorrt-local-tegra-repo`.

```
os="ubuntuxx04"
tag="10.x.x-cuda-x.x"
sudo dpkg -i nv-tensorrt-local-repo-${os}-${tag}_1.0-1_amd64.deb
sudo cp /var/nv-tensorrt-local-repo-${os}-${tag}/*-keyring.gpg /usr/share/keyrings/
sudo apt-get update
```

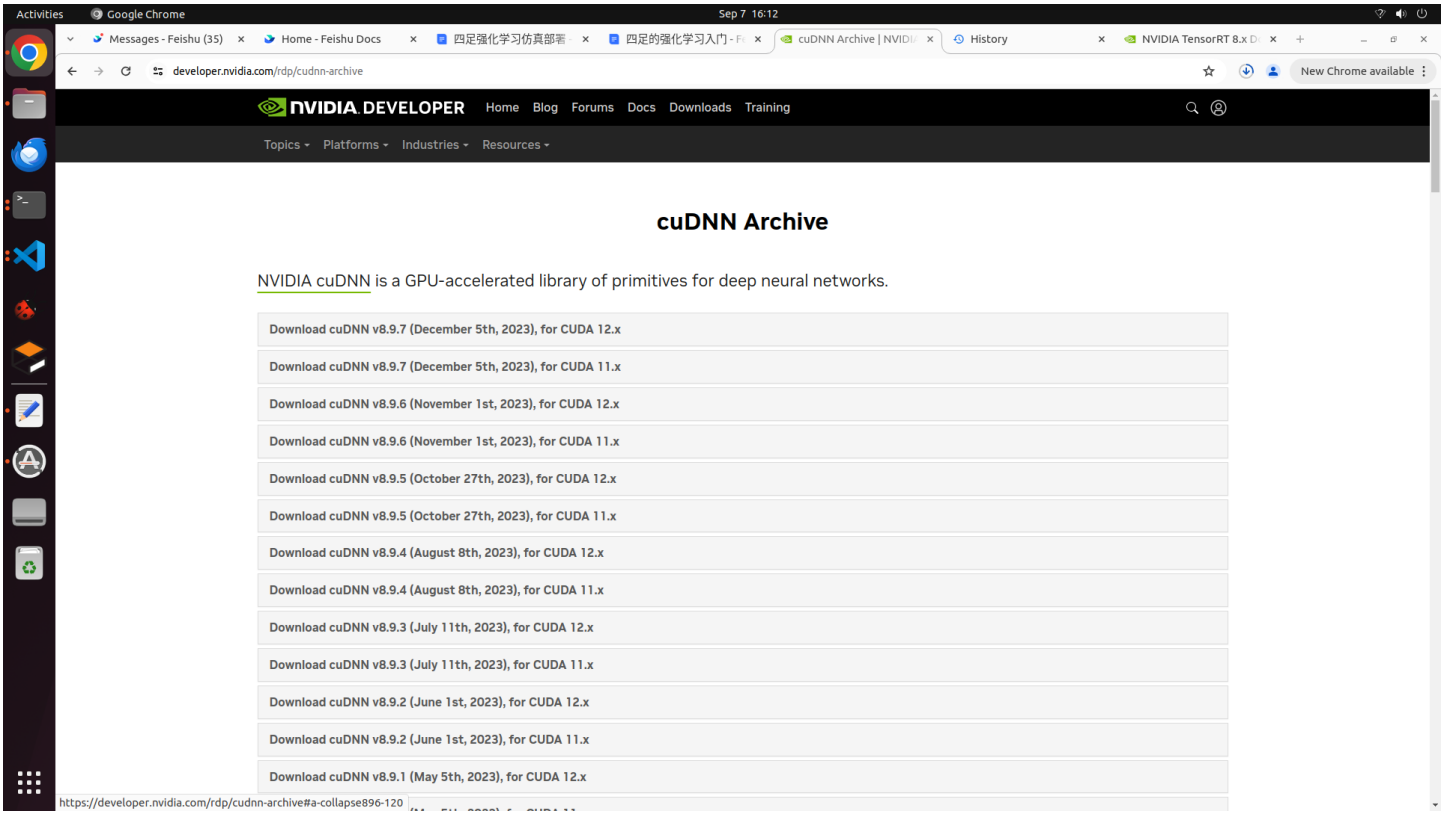
For the full C++ and Python runtimes

```
sudo apt-get install tensorrt
```

1.2报错缺少libcudnn，按照下面

软件，我安装的是8.9.0

https://developer.nvidia.com/rdp/cudnn-archive



安装https://docs.nvidia.com/deeplearning/cudnn/archives/cudnn-891/install-guide/index.html

```
$ sudo chmod a+r /usr/local/cuda/include/cudnn*.h /usr/local/cuda/lib64/libcudnn*
```

1.3.2. Debian Local Installation

Download the Debian local repository installation package. Before issuing the following commands, you must replace `X.Y` and `8.x.x`

1. Navigate to your `<cudnnpath>` directory containing the cuDNN Debian local installer file.
2. Enable the local repository.
   ```
   sudo dpkg -i cudnn-local-repo-${OS}-8.x.x.x 1.0-1 amd64.deb
   ```
   or
   ```
   sudo dpkg -i cudnn-local-repo-${OS}-8.x.x.x 1.0-1 arm64.deb
   ```
3. Import the CUDA GPG key.
   ```
   sudo cp /var/cudnn-local-repo-*/cudnn-local-*-keyring.gpg /usr/share/keyrings/
   ```
4. Refresh the repository metadata.
   ```
   sudo apt-get update
   ```
5. Install the runtime library.
   ```
   sudo apt-get install libcudnn8=8.x.x.x-1+cudaX.Y
   ```
6. Install the developer library.
   ```
   sudo apt-get install libcudnn8-dev=8.x.x.x-1+cudaX.Y
   ```
7. Install the code samples.
   ```
   sudo apt-get install libcudnn8-samples=8.x.x.x-1+cudaX.Y
   ```

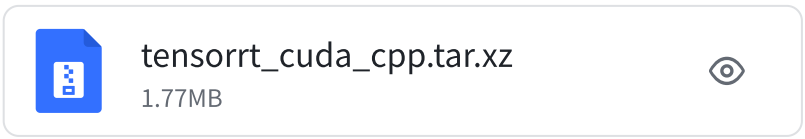
1.3.3. RPM Local Installation

Download the RPM local repository installation package. Before issuing the following commands, you must replace `X.Y` and `8.x.x.x`

1.3 安装完成后，可以执行如下命令

/usr/src/tensorrt/bin/trtexec --onnx=test.onnx --saveEngine=model_gn.engine

1.4 c++完成一次推理的实例



解压

cd tensor_cuda_cpp

mkdir build

cmake ..

make -j8

./cuda_test

2 tittai_webots dev_rl_tensorrt

titati_webots 使用