```
! git clone https://github.com/castacks/tartanvo.git
! cd tartanvo
! nvidia-docker run -it --rm --network host --ipc=host -v $PWD:/tartanvo amigoshan/tartanvo:latest
! cd tartanvo

    Cloning into 'tartanvo'...
    remote: Enumerating objects: 129, done.
    remote: Counting objects: 100% (56/56), done.
    remote: Compressing objects: 100% (45/45), done.
    remote: Total 129 (delta 13), reused 40 (delta 11), pack-reused 73
    Receiving objects: 100% (129/129), 923.31 KiB | 8.55 MiB/s, done.
    Resolving deltas: 100% (54/54), done.
    /bin/bash: line 1: nvidia-docker: command not found
```

```
! mkdir models
! wget https://cmu.box.com/shared/static/t1a5u4x6dxohl89104dyrsiz42mvq2sz.pkl -O models/tartanvo_1914.pkl

    --2023-12-10 20:51:23--  https://cmu.box.com/shared/static/t1a5u4x6dxohl89104dyrsiz42mvq2sz.pkl
    Resolving cmu.box.com (cmu.box.com)... 74.112.186.144
    Connecting to cmu.box.com (cmu.box.com)|74.112.186.144|:443... connected.
    HTTP request sent, awaiting response... 301 Moved Permanently
    Location: /public/static/t1a5u4x6dxohl89104dyrsiz42mvq2sz.pkl [following]
    --2023-12-10 20:51:23--  https://cmu.box.com/public/static/t1a5u4x6dxohl89104dyrsiz42mvq2sz.pkl
    Reusing existing connection to cmu.box.com:443.
    HTTP request sent, awaiting response... 301 Moved Permanently
    Location: https://cmu.app.box.com/public/static/t1a5u4x6dxohl89104dyrsiz42mvq2sz.pkl [following]
    --2023-12-10 20:51:24--  https://cmu.app.box.com/public/static/t1a5u4x6dxohl89104dyrsiz42mvq2sz.pkl
    Resolving cmu.app.box.com (cmu.app.box.com)... 74.112.186.144
    Connecting to cmu.app.box.com (cmu.app.box.com)|74.112.186.144|:443... connected.
    HTTP request sent, awaiting response... 302 Found
    Location: https://public.boxcloud.com/d/1/b1!Yegr_2hIwOOK4KAn98pbuh3CzR7j7qBiks6CjEyIkcCcDMWur9KinsPqHIkkjijP_xrYdNKkAUeCeoh_gyMHNUGg-xztFNHYE6r
    --2023-12-10 20:51:24--  https://public.boxcloud.com/d/1/b1!Yegr_2hIwOOK4KAn98pbuh3CzR7j7qBiks6CjEyIkcCcDMWur9KinsPqHIkkjijP_xrYdNKkAUeCeoh_gyMH
    Resolving public.boxcloud.com (public.boxcloud.com)... 74.112.186.128
    Connecting to public.boxcloud.com (public.boxcloud.com)|74.112.186.128|:443... connected.
    HTTP request sent, awaiting response... 200 OK
    Length: 98095963 (94M) [application/octet-stream]
    Saving to: 'models/tartanvo_1914.pkl'

    models/tartanvo_191 100%[===================>]  93.55M  15.8MB/s    in 6.2s

    2023-12-10 20:51:33 (15.0 MB/s) - 'models/tartanvo_1914.pkl' saved [98095963/98095963]
```

```
! mkdir data
! wget https://cmu.box.com/shared/static/nw3bi7x5vng2xy296ndxt19uozpk64jq.zip -O data/KITTI_10.zip
! unzip -q data/KITTI_10.zip -d data/KITTI_10/

    --2023-12-10 20:52:17--  https://cmu.box.com/shared/static/nw3bi7x5vng2xy296ndxt19uozpk64jq.zip
    Resolving cmu.box.com (cmu.box.com)... 74.112.186.144
    Connecting to cmu.box.com (cmu.box.com)|74.112.186.144|:443... connected.
    HTTP request sent, awaiting response... 301 Moved Permanently
    Location: /public/static/nw3bi7x5vng2xy296ndxt19uozpk64jq.zip [following]
    --2023-12-10 20:52:18--  https://cmu.box.com/public/static/nw3bi7x5vng2xy296ndxt19uozpk64jq.zip
    Reusing existing connection to cmu.box.com:443.
    HTTP request sent, awaiting response... 301 Moved Permanently
    Location: https://cmu.app.box.com/public/static/nw3bi7x5vng2xy296ndxt19uozpk64jq.zip [following]
    --2023-12-10 20:52:18--  https://cmu.app.box.com/public/static/nw3bi7x5vng2xy296ndxt19uozpk64jq.zip
    Resolving cmu.app.box.com (cmu.app.box.com)... 74.112.186.144
    Connecting to cmu.app.box.com (cmu.app.box.com)|74.112.186.144|:443... connected.
    HTTP request sent, awaiting response... 302 Found
    Location: https://public.boxcloud.com/d/1/b1!4Otq4CEGL74J7EEwBeAoEKtgMCvXmZD9EdMyOpWgfEOTPM7JPSqBOmmpO3knZ8XpNrU1pjrz-OVu4i2jyFEhvgtjipYfXgVGvvY
    --2023-12-10 20:52:19--  https://public.boxcloud.com/d/1/b1!4Otq4CEGL74J7EEwBeAoEKtgMCvXmZD9EdMyOpWgfEOTPM7JPSqBOmmpO3knZ8XpNrU1pjrz-OVu4i2jyFEh
    Resolving public.boxcloud.com (public.boxcloud.com)... 74.112.186.128
    Connecting to public.boxcloud.com (public.boxcloud.com)|74.112.186.128|:443... connected.
    HTTP request sent, awaiting response... 200 OK
    Length: 959499128 (915M) [application/zip]
    Saving to: 'data/KITTI_10.zip'

    data/KITTI_10.zip   100%[===================>] 915.05M  19.6MB/s    in 48s

    2023-12-10 20:53:07 (19.0 MB/s) - 'data/KITTI_10.zip' saved [959499128/959499128]
```

```
! mkdir data
! wget https://cmu.box.com/shared/static/1ctocidptdv1xev6pjxdj0b782mrstps.zip -O data/EuRoC_V102.zip
! unzip -q data/EuRoC_V102.zip -d data/EuRoC_V102/

    mkdir: cannot create directory 'data' : File exists
    --2023-12-10 22:34:29--  https://cmu.box.com/shared/static/1ctocidptdv1xev6pjxdj0b782mrstps.zip
    Resolving cmu.box.com (cmu.box.com)... 74.112.186.144
    Connecting to cmu.box.com (cmu.box.com)|74.112.186.144|:443... connected.
    HTTP request sent, awaiting response... 301 Moved Permanently
```

```
Location: /public/static/1ctocidptdv1xev6pjxdj0b782mrstps.zip [following]
--2023-12-10 22:34:29--  https://cmu.box.com/public/static/1ctocidptdv1xev6pjxdj0b782mrstps.zip
Reusing existing connection to cmu.box.com:443.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://cmu.app.box.com/public/static/1ctocidptdv1xev6pjxdj0b782mrstps.zip [following]
--2023-12-10 22:34:30--  https://cmu.app.box.com/public/static/1ctocidptdv1xev6pjxdj0b782mrstps.zip
Resolving cmu.app.box.com (cmu.app.box.com)... 74.112.186.144
Connecting to cmu.app.box.com (cmu.app.box.com)|74.112.186.144|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://public.boxcloud.com/d/1/b1!EcGOQXtgedC8qItrJsHzZ8fTaOR1qCQZrFsfGg-zLOBK1XYQrRSk57FiH95zz7QEG9gy6gJ1YEwweILIPFOc193LWpSW4om99uP
--2023-12-10 22:34:31--  https://public.boxcloud.com/d/1/b1!EcGOQXtgedC8qItrJsHzZ8fTaOR1qCQZrFsfGg-zLOBK1XYQrRSk57FiH95zz7QEG9gy6gJ1YEwweILIPFOc
Resolving public.boxcloud.com (public.boxcloud.com)... 74.112.186.128
Connecting to public.boxcloud.com (public.boxcloud.com)|74.112.186.128|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 260179280 (248M) [application/zip]
Saving to: 'data/EuRoC_V102.zip'

data/EuRoC_V102.zip 100%[===================>] 248.13M  19.1MB/s    in 13s

2023-12-10 22:34:44 (18.4 MB/s) - 'data/EuRoC_V102.zip' saved [260179280/260179280]
```

```
cd    tartanvo
```

```
/content/tartanvo
```

```
import matplotlib
matplotlib.use('agg')
```

```
import matplotlib
matplotlib.use('agg')
```

```
!python vo_trajectory_from_folder.py   --model-name tartanvo_1914.pkl \
                                        --kitti \
                                        --batch-size 1 --worker-num 1 \
                                        --test-dir data/KITTI_10/image_left \
                                        --pose-file data/KITTI_10/pose_left.txt \
                                        --save-flow
```

```
[[ 0.9157 -0.0118 -0.0104  0.0035 -0.0021 -0.0051]]
1039 Pose inference using 0.03354334831237793s:
[[ 0.9224 -0.0211 -0.0163  0.0048 -0.0026 -0.0067]]
1040 Pose inference using 0.03456759452819824s:
[[ 0.9212 -0.02   -0.0077  0.0023 -0.0001 -0.005 ]]
1041 Pose inference using 0.03474831581115723s:
[[ 0.9196 -0.0285  0.0235  0.0004  0.0021 -0.004 ]]
1042 Pose inference using 0.036684274673461914s:
[[ 0.9179 -0.0176  0.0265  0.0021  0.0034 -0.0027]]
1043 Pose inference using 0.035501718521118164s:
[[ 0.9137 -0.0411  0.012  -0.003   0.0033 -0.0035]]
```

```python
import cupy
print(cupy.__version__)
```

```
11.0.0
```

```
!nvcc --version
```

```
nvcc: NVIDIA (R) Cuda compiler driver
Copyright (c) 2005-2022 NVIDIA Corporation
Built on Wed_Sep_21_10:33:58_PDT_2022
Cuda compilation tools, release 11.8, V11.8.89
Build cuda_11.8.r11.8/compiler.31833905_0
```

```
!mv /content/models/tartanvo_1914.pkl /content/tartanvo/tartanvo_1914.pkl
```

```
!mv /content/tartanvo/tartanvo_1914.pkl /content/model/tartanvo_1914.pkl
```

```
mv: cannot move '/content/tartanvo/tartanvo_1914.pkl' to '/content/model/tartanvo_1914.pkl': No such file or directory
```

双击（或按回车键）即可修改

```
! python vo_trajectory_from_folder.py  --model-name tartanvo_1914.pkl \
                                       --euroc \
                                       --batch-size 1 --worker-num 1 \
                                       --test-dir data/EuRoC_V102/image_left \
                                       --pose-file data/EuRoC_V102/pose_left.txt \
                                       --save-flow
```

```
[[ 0.001   0.0007  0.002   0.      0.0001  0.002 ]]
1668 Pose inference using 0.026504993438720703s:
[[ 0.0004 -0.0008 -0.0001  0.0014 -0.0025  0.0006]]
1669 Pose inference using 0.02584075927734375s:
[[-0.0008  0.0001  0.0005 -0.0021  0.0035  0.0002]]
1670 Pose inference using 0.02793717384338379s:
[[-0.0004  0.0007  0.0005  0.0016  0.0042 -0.001 ]]
1671 Pose inference using 0.0259244441986084s:
[[ 0.0005 -0.0006 -0.      0.0001 -0.0033  0.0009]]
1672 Pose inference using 0.025960445404052734s:
[[ 0.0002  0.0003  0.0002  0.0006 -0.0003 -0.0007]]
1673 Pose inference using 0.025437593460083008s:
[[-0.0001  0.0003  0.0001 -0.0016  0.0019  0.0003]]
1674 Pose inference using 0.03284120559692383s:
[[ 0.     -0.      0.      0.0018 -0.0006  0.0002]]
1675 Pose inference using 0.0213930606842041s:
[[-0.      0.      0.     -0.001   0.0014  0.0004]]
1676 Pose inference using 0.021017789840698242s:
[[ 0.      0.      0.      0.0001 -0.0001 -0.0005]]
  Scale, 0.9999999965940536
  ATE scale: 1.0160408065951636
==> ATE: 0.3800
```

```
! pwd
```

```
/content/tartanvo
```

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

```
!ls
```

```
CMakeLists.txt  evaluator    publish_image_from_folder.py  tartanvo_node.py
config.rviz     LICENSE      __pycache__                   TartanVO.py
data            models       README.md                     vo_trajectory_from_folder.py
Datasets        Network      results
docker          package.xml  tartanvo_1914.pkl
```

```
!cp -r /content/tartanvo /content/drive/MyDrive/
```