Preparatory stage

1. Download weight files

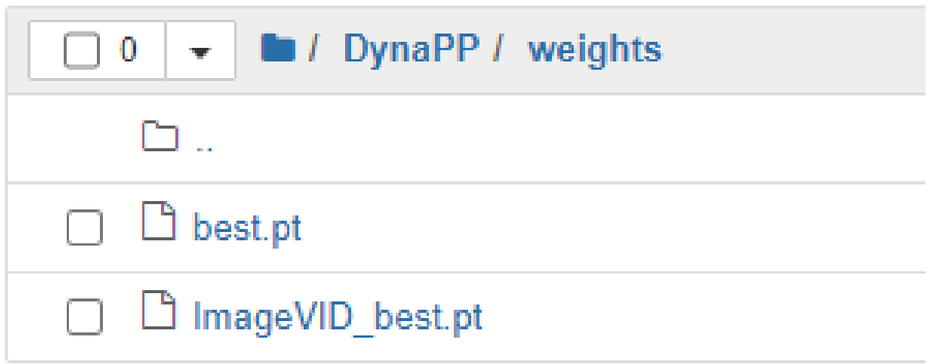
Please download weight files below

(Put the files in 'weights' folder)

https://drive.google.com/file/d/1LTSKE19bpygugyIP9jMk2dtjdgcQZ1vu/view?usp=share_link

https://drive.google.com/file/d/19zlMTZzF9tqOnpDBxMkoKz6u7S3-x7CW/view?usp=share_link

2. Put those files in ‘weights’ folder.



3. Download datasets

Put the files in directory you want.

Please download datasets below

(Put the files in directory you want, and modify the code inside 'Run.ipynb'

AUAIR

https://drive.google.com/file/d/1syHeOWTO5clw3pjE68TWQdhzZPfTsHTv/view?usp=share_link

VisDrone

https://drive.google.com/file/d/1f02BSNxu0QAkimABYEJeLMSR01Tk1Tnr/view?usp=share_link

UAVDT

https://drive.google.com/file/d/1MpPPzEgjuRH3DjwFE0jhDxscSzqMjPpW/view?usp=share_link

ImageVID

https://drive.google.com/file/d/1w_K7uV4C_VxM5NryFpJFQC8OtSZbPlde/view?usp=share_link

Test hardware

1. Run ‘Test your hardware.ipynb’

2. Check files in ‘hardware_support’

   - Nano.png : inference time checking
     960 × 960 → … → 40 × 40
   - not_square_Nano.png :
     960 × 96 → … → 40 × 96

   - Nano.png :
     2560 × 2560 → … → 80 × 80
   - not_square_Nano.png :
     2560 × 256 → … → 80 × 256

Note that these results determine the degree of acceleration.

We strongly recommend using Jetson Nvidia TX2 and Jetson Nano or with hardware of a similar specification for reproducing our experiments.

However, if there is none, please experiment with existing hardware and refer to the result of acceleration indirectly with average resolution in 'excel_results/files'.

Evaluate (DynaPP / baseline / Pack and Detect)

1. Go to ‘Run.ipynb’

2. Write dataset directory

!! Please write the directory you put datasets in.

```
In [ ]:
# Please modify.
UAVDT_directory = '../data/datasets/UAVDT/UAV-benchmark-M'
VisDrone_directory = '../data/datasets/VisDroneVID/sequences'
AUAIR_directory = '../data/datasets/AUAIR/videos'
ImageVID_directory = '../data/datasets/ImageVID_yolo_form'
```

3. Run the code

4. Results are saved in excel inside ‘excel_result’ folder.

AUAIR

DynaPP

Square
Baseline

Pack and
Detect

```
# Run YOLOv5x on AUAIR
for idx, video in enumerate(AUAIR_video_list
    AUAIR_change_yaml(video)
    # The following runs DynaPP, Baseline, Pa

    !python3 val.py --pack --dataset_name 'AU
    !python3 val.py --dataset_name 'AUAIR' --
#     !python3 val_packanddetect.py --pack --
```

Result Analysis

Will be soon updated

Ablation Study

Will be soon updated

Where to check our code write

Will be soon updated