

AI 모델 가이드

1. Tar파일을 저장하고 도커 image에 로드합니다.

```
root@lab3:/data# ls
insect_docker.tar  lost+found  test
root@lab3:/data# docker load -i insect_docker.tar
```

2. Docker images 로 이미지의 로드 상태를 확인합니다.

```
root@lab3:/data# docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
insect_docker        latest              697df19671b4       16 hours ago       12.7GB
```

3. Docker images 로 이미지의 로드 상태를 확인합니다.

```
root@lab3:/data# docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
insect_docker        latest              697df19671b4       16 hours ago       12.7GB
```

4. Docker run 명령어로 컨테이너를 실행합니다.

```
docker run -it --name 컨테이너이름 -v 로컬폴더:원하는내부폴더 insect_docker
```

```
no change      /root/miniconda3/condabin/conda
no change      /root/miniconda3/bin/conda
no change      /root/miniconda3/bin/conda-env
no change      /root/miniconda3/bin/activate
no change      /root/miniconda3/bin/deactivate
no change      /root/miniconda3/etc/profile.d/conda.sh
no change      /root/miniconda3/etc/fish/conf.d/conda.fish
no change      /root/miniconda3/shell/condabin/Conda.psml
no change      /root/miniconda3/shell/condabin/conda-hook.ps1
no change      /root/miniconda3/lib/python3.9/site-packages/xontrib/conda.xsh
no change      /root/miniconda3/etc/profile.d/conda.csh
no change      /root/.bashrc
No action taken.
(py_3_8_11) root@694a630198de:/usr/local/src/insect/src#
```

- 로컬폴더는 데이터가 있는 폴더로 하면 편합니다.

5. Conda activate maskrcnn을 사용해서 환경을 켜줍니다.

```
(py_3_8_11) root@694a630198de:/usr/local/src/insect/src# conda activate maskrcnn
(maskrcnn) root@694a630198de:/usr/local/src/insect/src#
```

6. Maskrcnn 폴더로 들어간 후 폴더 안 구조를 확인합니다.

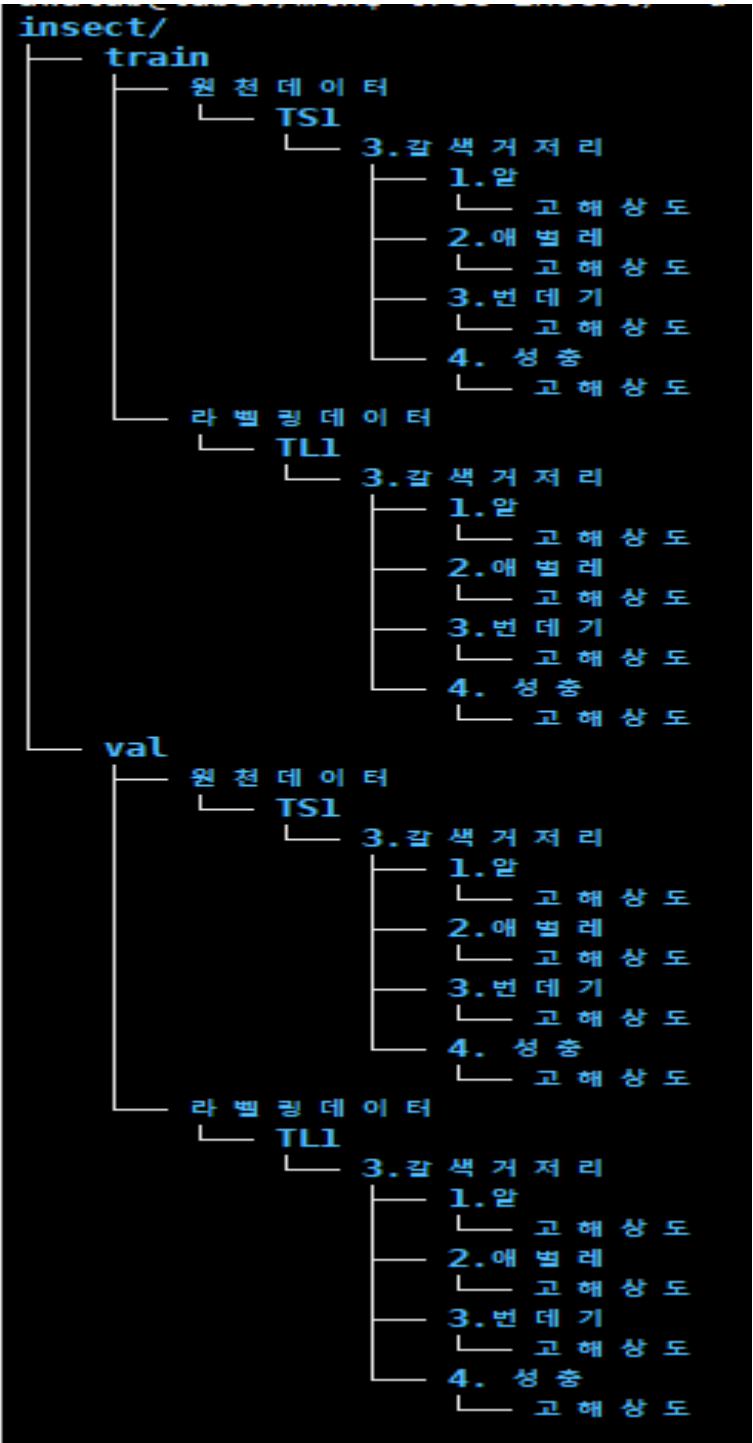
```
(maskrcnn) root@694a630198de:/usr/local/src/insect/src# cd ../../maskrcnn/
(maskrcnn) root@694a630198de:/usr/local/src/maskrcnn# ls
LICENSE      assets  images  mask_rcnn.egg-info  requirements.txt  setup.py
MANIFEST.in  build  insect.py  mask_rcnn_coco.h5  samples
README.md    dist   logs      mrcnn              setup.cfg
```

7. Train

```
python insect.py train --weights=mask_rcnn_coco.h5\
--dataset=/insect/insect --classes 클래스 개수
```

명령어 :

Python insect.py train -weights=mask_rcnn_coco.h5
-dataset=데이터 -classes 클래스개수



데이터
폴더구조

```
Epoch 1/50
 99/100 [=====>.] - ETA: 9s - loss: 1.1517 - rpn_class_loss: 0.1087 - rpn_bbox_loss: 0.1726 - mrcnn_class_loss: 0.2026 - mrcnn_bbox_loss: 0.3185 - mrcnn_mask_loss: 0.3492 /root/miniconda3/envs/maskrcnn/lib/python3.7/site-packages/keras/engine/training.py:2348: UserWarning: Using a generator with `use_multiprocessing=True` and multiple workers may duplicate your data. Please consider using the `fork` method.
100/100 [=====] - 976s 10s/step - loss: 1.1441 - rpn_class_loss: 0.1078 - rpn_bbox_loss: 0.1717 - mrcnn_class_loss: 0.2008 - mrcnn_bbox_loss: 0.3165 - mrcnn_mask_loss: 0.3473 - val_loss: 0.4084 - val_rpn_class_loss: 0.0182 - val_rpn_bbox_loss: 0.0724 - val_mrcnn_class_loss: 0.270 - val_mrcnn_bbox_loss: 0.1173 - val_mrcnn_mask_loss: 0.1736
WARNING:tensorflow:From /root/miniconda3/envs/maskrcnn/lib/python3.7/site-packages/keras/callbacks.py:869: The name tf.Summary is deprecated. Please use tf.compat.v1.Summary instead.

Epoch 2/50
100/100 [=====] - 967s 10s/step - loss: 0.3789 - rpn_class_loss: 0.0160 - rpn_bbox_loss: 0.0599 - mrcnn_class_loss: 0.0459 - mrcnn_bbox_loss: 0.1099 - mrcnn_mask_loss: 0.1472 - val_loss: 0.2967 - val_rpn_class_loss: 0.0132 - val_rpn_bbox_loss: 0.0458 - val_mrcnn_class_loss: 0.242 - val_mrcnn_bbox_loss: 0.0836 - val_mrcnn_mask_loss: 0.1298

Epoch 3/50
100/100 [=====] - 967s 10s/step - loss: 0.3419 - rpn_class_loss: 0.0123 - rpn_bbox_loss: 0.0463 - mrcnn_class_loss: 0.0304 - mrcnn_bbox_loss: 0.1109 - mrcnn_mask_loss: 0.1420 - val_loss: 0.2719 - val_rpn_class_loss: 0.0107 - val_rpn_bbox_loss: 0.0352 - val_mrcnn_class_loss: 0.159 - val_mrcnn_bbox_loss: 0.0906 - val_mrcnn_mask_loss: 0.1195
```

- 학습 진행 중

8. 결과

```
python insect.py splash --weights=mask_rcnn_coco.h5\
```

```
--image=이미지경로 --classes 클래스 개수
```

명령어:

Python insect.py splash --weights=mask_rcnn_coco.h5\
--image=이미지경로 --classes 클래스 개수

Splash + 날짜+시간 으로 이미지가 저장됩니다.



왼쪽부터 원본, 분석사진 이고 적게 학습했지만 객체를 흑백과 컬러로 구분한 모습을 볼 수 있습니다.