一 image classification

1. 训练

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| python train\_image\_classifier.py --train\_dir=satellite/train\_dir --dataset\_name=satellite --dataset\_split\_name=train --dataset\_dir=satellite/data --model\_name=inception\_v3 --checkpoint\_path=satellite/pretrained/inception\_v3.ckpt --checkpoint\_exclude\_scopes=InceptionV3/Logits,InceptionV3/AuxLogits --trainable\_scopes=InceptionV3/Logits,InceptionV3/AuxLogits --max\_number\_of\_steps=100000 --batch\_size=32 --learning\_rate=0.001 --learning\_rate\_decay\_type=fixed --save\_interval\_secs=300 --save\_summaries\_secs=2 --log\_every\_n\_steps=10 --optimizer=rmsprop --weight\_decay=0.00004 |

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| --- |
| python eval\_image\_classifier.py --checkpoint\_path=satellite/train\_dir --eval\_dir=satellite/eval\_dir --dataset\_name=satellite --dataset\_split\_name=validation --dataset\_dir=satellite/data --model\_name=inception\_v3 |

二 object detection

第一步, 准备数据集.

下载:

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| wget http://host.robots.ox.ac.uk/pascal/VOC/voc2012/VOCtrainval\_11-May-2012.tar |

用voc2012.整理成tfrecord模型,以便tf可以识别使用.

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| --- |
| python create\_pascal\_tf\_record.py --data\_dir voc/VOCdevkit/ --year=VOC2012 --set=train --output\_path=voc/pascal\_train.record  python create\_pascal\_tf\_record.py --data\_dir voc/VOCdevkit/ --year=VOC2012 --set=val --output\_path=voc/pascal\_val.record |

拷贝label, 这个是human 可读的label描述标签.

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| cp data/pascal\_label\_map.pbtxt voc/ |

在voc中新建 pretrain, 构建pretrain模型.

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| wget http://download.tensorflow.org/models/object\_detection/faster\_rcnn\_inception\_resnet\_v2\_atrous\_coco\_11\_06\_2017.tar.gz |

第二步,训练

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| **export PYTHONPATH=$PYTHONPATH:`pwd`:`pwd`/slim**  chmod a+x ../research/bin/protoc  ../research/bin/protoc object\_detection/protos/\*.proto –python\_out=.  /home/julyedu\_433249/work/tf\_base/research/bin/protoc object\_detection/protos/\*.proto --python\_out=. |

|  |
| --- |
| python train.py --train\_dir voc/train\_dir/ --pipeline\_config\_path voc/voc.config |

第三步, 保存模型.

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| --- |
| python3 export\_inference\_graph.py --input\_type image\_tensor --pipeline\_config\_path voc/voc.config --trained\_checkpoint\_prefix voc/train\_dir/model.ckpt-48 --output\_directory voc/export |

导出的模型是voc/export/frozen\_inference\_graph.pb 文件。