YOLOv3 Documentation

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ONE

YOLOV3 TRAIN

src.train2.**main**(*inputs*)

Main driver script for training the YOLOv3 network.

Inputs:

inputs: an input file formatted according to the InputFile class

Outputs:

inputs.outdir/results.txt: output metrics for each training epoch
inputs.loaddir/latest.pt: checkpoint file for latest network configuration
inputs.loaddir/best.pt: checkpoint file for best current network configuration
inputs.loaddir/backup.pt: checkpoint file for backup purposes

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TWO

YOLOV3 DETECT

class src.detect.**ConvNetb**(*num_classes=60*)

forward(*x*)

Defines the computation performed at every call.

Should be overridden by all subclasses.

Note: Although the recipe for forward pass needs to be defined within this function, one should call the `Module` instance afterwards instead of this since the former takes care of running the registered hooks while the latter silently ignores them.

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THREE

YOLOV3 INPUTFILE

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FOUR

YOLOV3 MODELS

class src.models.**Darknet**(*config_path*, *img_size=416*)
YOLOv3 object detection model

forward(*x*, *targets=None*, *requestPrecision=False*, *weight=None*, *epoch=None*)
Defines the computation performed at every call.

Should be overridden by all subclasses.

Note: Although the recipe for forward pass needs to be defined within this function, one should call the `Module` instance afterwards instead of this since the former takes care of running the registered hooks while the latter silently ignores them.

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class src.models.**EmptyLayer**
Placeholder for 'route' and 'shortcut' layers

class src.models.**YOLOLayer**(*anchors*, *nC*, *img_dim*, *anchor_idxs*)

forward(*p*, *targets=None*, *requestPrecision=False*, *weight=None*, *epoch=None*)
Defines the computation performed at every call.

Should be overridden by all subclasses.

Note: Although the recipe for forward pass needs to be defined within this function, one should call the `Module` instance afterwards instead of this since the former takes care of running the registered hooks while the latter silently ignores them.

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src.models.**create_modules**(*module_defs*)
Constructs module list of layer blocks from module configuration in module_defs

src.models.**create_yolo_config_file**(*template_file_path*, *output_config_file_path*, *n_anchors*, *n_classes*, *anchor_coordinates*)
Creates a yolo-v3 layer configuration file from desired options

src.models.**parse_model_config**(*path*)
Parses the yolo-v3 layer configuration file and returns module definitions

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YOLOV3 NETWORKTRAINER

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YOLOV3 UTILS

utils.utils.**bbox_iou**(*box1*, *box2*, *x1y1x2y2=True*)
Returns the IoU of two bounding boxes

utils.utils.**build_targets**(*pred_boxes*, *pred_conf*, *pred_cls*, *target*, *anchor_wh*, *nA*, *nC*, *nG*, *requestPrecision*)
returns nGT, nCorrect, tx, ty, tw, th, tconf, tcls

utils.utils.**compute_ap**(*recall*, *precision*)
Compute the average precision, given the recall and precision curves. Code originally from https://github.com/rbgirshick/py-faster-rcnn. # Arguments

recall: The recall curve (list). precision: The precision curve (list).

 # Returns The average precision as computed in py-faster-rcnn.

utils.utils.**load_classes**(*path*)
Loads class labels at 'path'

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YOLOV3 UTILS_XVIEW

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YOLOV3 UNITTESTS

class tests.unittests.**DataProcessingTests**(*methodName='runTest'*)

setUp()
Hook method for setting up the test fixture before exercising it.

class tests.unittests.**DatasetTests**(*methodName='runTest'*)

setUp()
Hook method for setting up the test fixture before exercising it.

class tests.unittests.**GPUtests**(*methodName='runTest'*)

setUp()
Hook method for setting up the test fixture before exercising it.

class tests.unittests.**ModelsTests**(*methodName='runTest'*)

setUp()
Hook method for setting up the test fixture before exercising it.

class tests.unittests.**TargetTests**(*methodName='runTest'*)

setUp()
Hook method for setting up the test fixture before exercising it.

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