Detection Toolbox

1. MMDetection
2. MMCV
3. Detectron
4. Detectron2
5. SimpleDet
6. Maskrcnn-benchmark

Paper list

Two-stage

1. **[R-CNN]** Rich feature hierarchies for accurate object detection and semantic segmentation| [pdf] [official code – caffe]
2. **[Fast R-CNN]** Fast R-CNN | [pdf][official code – caffe]
3. **[Faster R-CNN]** Faster R-CNN | [pdf] [official code – caffe][code – pytorch]

One-stage

1. **[YOLO-v1]** You Only Look Once: Unified, Real-Time Object Detection [pdf] [code – tensorflow] [code – pytorch]
2. **[YOLO-v2]** YOLO9000: Better, Faster, Stronger [pdf] [code – pytorch]
3. **[YOLO-v3]** YOLOv3: An Incremental Improvement [pdf] [code – pytorch]
4. **[SSD]** SSD: Single Shot MultiBox Detector [pdf] [official code – caffe][code – pytorch]
5. **[RetinaNet]** Focal Loss for Dense Object Detection [pdf] [offical code – pytorch][code – pytorch]

NMS

1. **[Soft-NMS]** Improving Object Detection With One Line of Code [pdf] [offical code – caffe] [code – pytorch]
2. **[Softer-NMS]** Softer-NMS: Rethinking Bounding Box Regression for Accurate Object Detection [pdf] [offical code – Caffe2]
3. **[KL-Loss]** Bounding Box Regression with Uncertainty for Accurate Object Detection [pdf] [offical code – Caffe2]
4. Learning non-maximum suppression [pdf]
5. **[Relation-Network]** Relation Networks for Object Detection [pdf] [offical code – mxnet]

6. **[PrPool]** Acquisition of Localization Confidence for Accurate Object Detection [pdf] [offical code - pytorch]
7. **[Adaptive-NMS]** Adaptive NMS: Refining Pedestrian Detection in a Crowd [pdf]

Anchor-free

1. **[CornerNet]** CornerNet: Detecting Objects as Paired Keypoints [pdf] [offical code - pytorch]
2. **[CornerNet-Lite]** CornerNet-Lite: Efficient Keypoint Based Object Detection [pdf] [offical code - pytorch]
3. **[FSAF]** Feature Selective Anchor-Free Module for Single-Shot Object Detection [pdf] [code - tensorflow] [code - pytorch]
4. **[ExtremeNet]** Bottom-up Object Detection by Grouping Extreme and Center Points [pdf] [offical code - pytorch]
5. **[FoveaBox]** FoveaBox: Beyond Anchor-based Object Detector [pdf] [offical code - pytorch]
6. **[FCOS]** FCOS: Fully Convolutional One-Stage Object Detection [pdf] [code - pytorch]
7. **[CenterNet]** Objects as Points [pdf] [offical code - pytorch]
8. AFP-Net: Realtime Anchor-Free Polyp Detection in Colonoscopy [pdf]

Others

1. **[Mask R-CNN]** Mask R-CNN [pdf] [offical code - caffe] [code - pytorch]
2. **[Cascade R-CNN]** Cascade R-CNN: Delving into High Quality Object Detection [pdf] [offical code - caffe] [code - pytorch]
3. **[FPN]** Feature Pyramid Networks for Object Detection [pdf] [code - pytorch]
4. **[M2Det]** M2Det: A Single-Shot Object Detector based on Multi-Level Feature Pyramid Network [pdf] [offical code - pytorch]
5. **[OHEM]** Training Region-based Object Detectors with Online Hard Example Mining [pdf] [offical code - caffe] [code - pytorch]
6. **[GIoU]** Generalized Intersection over Union: A Metric and A Loss for Bounding Box Regression [pdf] [code - pytorch] [code - tensorflow]
7. **[GA-RPN]** Region Proposal by Guided Anchoring [pdf] [offical code - pytorch]

Acknowledgements

- Significant amounts of content are based on the deep learning object detection

zhangyinmin