Aero2Astro
Panneerselvam N
(27/08/2021)

I had trained Faster Rcnn model upto 46000 iterations. And also evaluated with both train and test dataset.
Model:(Faster Rcnn)
Backbone = Faster_rcnn_X_101_32x8d_FPN_3x

bs = 4

lr = 0.001

ins = 500

Previous Checkpoint : 36500 its
Threshold : 0.65
Test :

```
[08/25 15:11:05 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.02 seconds.
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.392
 Average Precision  (AP) @[ IoU=0.50      | area=   all | maxDets=100 ] = 0.569
 Average Precision  (AP) @[ IoU=0.75      | area=   all | maxDets=100 ] = 0.426
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.246
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.511
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.593
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=  1 ] = 0.224
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets= 10 ] = 0.554
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.600
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.438
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.701
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.847
[08/25 15:11:05 d2.evaluation.coco_evaluation]: Evaluation results for bbox:
```

AP	AP50	AP75	APs	APm	APl
39.228	56.910	42.639	24.581	51.138	59.315

```
[08/25 15:11:05 d2.evaluation.coco_evaluation]: Per-category bbox AP:
```

category	AP	category	AP	category	AP
aeroplane	66.712	car	26.778	chair	32.140
cow	57.641	person	22.527	traffic_light	29.573

Train :

```
[08/25 15:15:10 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.04 seconds.
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.604
 Average Precision  (AP) @[ IoU=0.50      | area=   all | maxDets=100 ] = 0.814
 Average Precision  (AP) @[ IoU=0.75      | area=   all | maxDets=100 ] = 0.667
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.506
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.702
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.783
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=  1 ] = 0.300
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets= 10 ] = 0.691
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.734
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.640
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.809
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.893
[08/25 15:15:10 d2.evaluation.coco_evaluation]: Evaluation results for bbox:
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AP	AP50	AP75	APs	APm	APl
60.351	81.365	66.654	50.648	70.243	78.320

```
[08/25 15:15:10 d2.evaluation.coco_evaluation]: Per-category bbox AP:
```

category	AP	category	AP	category	AP
aeroplane	85.878	car	51.500	chair	62.730
cow	71.936	person	45.568	traffic_light	44.495

Threshold : 0.85

Test :

```
[08/25 15:16:40 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.02 seconds.
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[08/25 15:20:49 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.04 seconds.
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cow	71.936	person	45.568	traffic_light	44.495

```
OrderedDict([('bbox'
```

Last checkpoint : 46000 itrs.
Threshold : 0.85

Test :

```
[08/27 14:54:37 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.02 seconds.
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.394
 Average Precision  (AP) @[ IoU=0.50      | area=   all | maxDets=100 ] = 0.568
 Average Precision  (AP) @[ IoU=0.75      | area=   all | maxDets=100 ] = 0.428
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.246
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.511
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.590
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=  1 ] = 0.226
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets= 10 ] = 0.557
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.602
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.440
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.703
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.850
[08/27 14:54:37 d2.evaluation.coco_evaluation]: Evaluation results for bbox:
```

AP	AP50	AP75	APs	APm	APl
39.399	56.794	42.810	24.648	51.133	59.015

```
[08/27 14:54:37 d2.evaluation.coco_evaluation]: Per-category bbox AP:
```

category	AP	category	AP	category	AP
aeroplane	66.907	car	27.094	chair	32.051
cow	57.985	person	22.072	traffic_light	30.283

Train:

```
[08/27 15:05:29 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.05 seconds.
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.613
 Average Precision  (AP) @[ IoU=0.50      | area=   all | maxDets=100 ] = 0.820
 Average Precision  (AP) @[ IoU=0.75      | area=   all | maxDets=100 ] = 0.678
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.515
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.711
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.794
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=  1 ] = 0.302
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets= 10 ] = 0.696
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.739
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.646
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.811
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.898
[08/27 15:05:29 d2.evaluation.coco_evaluation]: Evaluation results for bbox:
```

AP	AP50	AP75	APs	APm	APl
61.289	82.036	67.792	51.464	71.061	79.403

```
[08/27 15:05:29 d2.evaluation.coco_evaluation]: Per-category bbox AP:
```

category	AP	category	AP	category	AP
aeroplane	86.584	car	52.557	chair	63.802
cow	72.699	person	46.718	traffic_light	45.374

Threshold : 0.65

Test :

```
[08/27 15:09:14 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.02 seco
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Train :

```
[08/27 15:19:00 d2.evaluation.fast_eval_api]: Accumulating evaluation results...
[08/27 15:19:00 d2.evaluation.fast_eval_api]: COCOeval_opt.accumulate() finished in 0.05 seconds.
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.613
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