

## Work report

4 Aug 2021

I have started training the pp-Yolo model on 1000 instances.

I have kept the setting as follows:

Batch size=8

Learning rate=0.000417

Epoch = 1780

the loss is fluctuating between 35.0 to 49.75

Due to the google collab limit, GPU is disconnected

### 1. Evaluation on test images:

```
loading annotations into memory...
Done (t=0.02s)
creating index...
index created!
[08/05 03:35:43] ppdet.metrics.coco_utils INFO: Start evaluate...
Loading and preparing results...
DONE (t=0.65s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.16s).
Accumulating evaluation results...
DONE (t=0.24s).
Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.011
Average Precision  (AP) @[ IoU=0.50      | area=   all | maxDets=100 ] = 0.029
Average Precision  (AP) @[ IoU=0.75      | area=   all | maxDets=100 ] = 0.007
Average Precision  (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.013
Average Precision  (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.012
Average Precision  (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.008
Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=  1 ] = 0.029
Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets= 10 ] = 0.089
Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.119
Average Recall     (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.088
Average Recall     (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.144
Average Recall     (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.107
[08/05 03:35:45] ppdet.engine INFO: Total sample number: 177, average FPS: 6.688793458806777
```

## 2. Evaluation on train images:

```
loading annotations into memory...
Done (t=0.01s)
creating index...
index created!
[08/05 04:13:57] ppdet.engine INFO: Eval iter: 0
[08/05 04:14:08] ppdet.metrics.metrics INFO: The bbox result is saved to bbox.json.
loading annotations into memory...
Done (t=0.03s)
creating index...
index created!
[08/05 04:14:08] ppdet.metrics.coco_utils INFO: Start evaluate...
Loading and preparing results...
DONE (t=0.46s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.28s).
Accumulating evaluation results...
DONE (t=0.24s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.011
Average Precision (AP) @[ IoU=0.50 | area= all | maxDets=100 ] = 0.028
Average Precision (AP) @[ IoU=0.75 | area= all | maxDets=100 ] = 0.007
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.014
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.012
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.008
Average Recall (AR) @[ IoU=0.50:0.95 | area= all | maxDets= 1 ] = 0.030
Average Recall (AR) @[ IoU=0.50:0.95 | area= all | maxDets= 10 ] = 0.091
Average Recall (AR) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.120
Average Recall (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.089
Average Recall (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.147
Average Recall (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.109
[08/05 04:14:10] ppdet.engine INFO: Total sample number: 177, average FPS: 15.1880043229007
[08/05 04:14:10] ppdet.engine INFO: Best test bbox ap is 0.011.
```