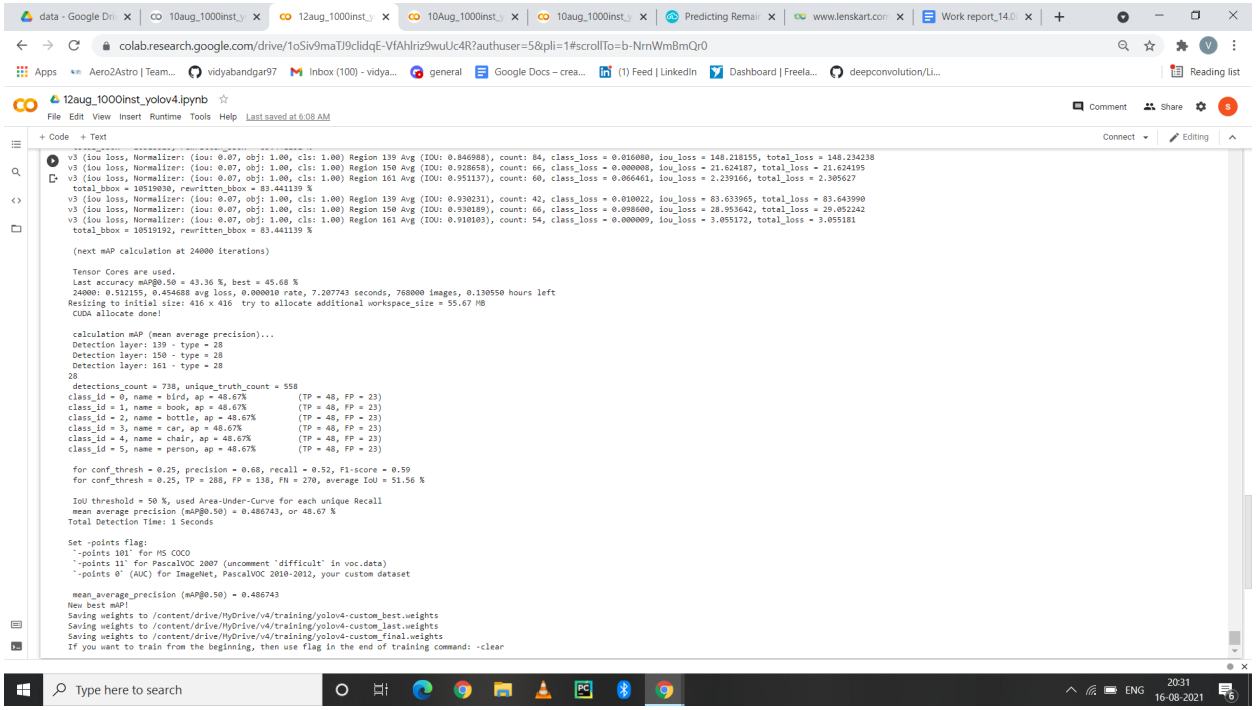
Work report

16 Aug 2021

yolov4 for 1000 instances.
Epochs 24000



MAP

```
 detections_count = 738, unique_truth_count = 558
class_id = 0, name = bird, ap = 48.67%          (TP = 48, FP = 23)
class_id = 1, name = book, ap = 48.67%          (TP = 48, FP = 23)
class_id = 2, name = bottle, ap = 48.67%        (TP = 48, FP = 23)
class_id = 3, name = car, ap = 48.67%           (TP = 48, FP = 23)
class_id = 4, name = chair, ap = 48.67%         (TP = 48, FP = 23)
class_id = 5, name = person, ap = 48.67%        (TP = 48, FP = 23)

 for conf_thresh = 0.25, precision = 0.68, recall = 0.52, F1-score = 0.59
 for conf_thresh = 0.25, TP = 288, FP = 138, FN = 270, average IoU = 51.56 %

 IoU threshold = 50 %, used Area-Under-Curve for each unique Recall
 mean average precision (mAP@0.50) = 0.486743, or 48.67 %
Total Detection Time: 1 Seconds
```

Notebook:
https://github.com/vidyabandgar97/A2A/blob/main/16aug_1000inst_yolov4.ipynb

Pp-yolo for 1000 instances

```
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=7.72s).
Accumulating evaluation results...
DONE (t=1.40s).
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.039
 Average Precision  (AP) @[ IoU=0.50      | area=   all | maxDets=100 ] = 0.111
 Average Precision  (AP) @[ IoU=0.75      | area=   all | maxDets=100 ] = 0.017
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.037
 Average Precision  (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.051
 Average Precision  (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.031
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=  1 ] = 0.047
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets= 10 ] = 0.147
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=   all | maxDets=100 ] = 0.210
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = 0.160
 Average Recall     (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.260
 Average Recall     (AR) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.243
[08/14 05:42:22] ppdet.metrics.coco_utils INFO: Per-category of bbox AP:
+----------+-------+----------+-------+----------+-------+
| category | AP    | category | AP    | category | AP    |
+----------+-------+----------+-------+----------+-------+
| bird     | 0.011 | book     | 0.015 | bottle   | 0.124 |
| car      | 0.002 | chair    | 0.016 | person   | 0.064 |
+----------+-------+----------+-------+----------+-------+
[08/14 05:42:22] ppdet.metrics.coco_utils INFO: per-category PR curve has output to bbox_pr_curve folder.
[08/14 05:42:23] ppdet.engine INFO: Total sample number: 1093, averge FPS: 13.546782759184328
```