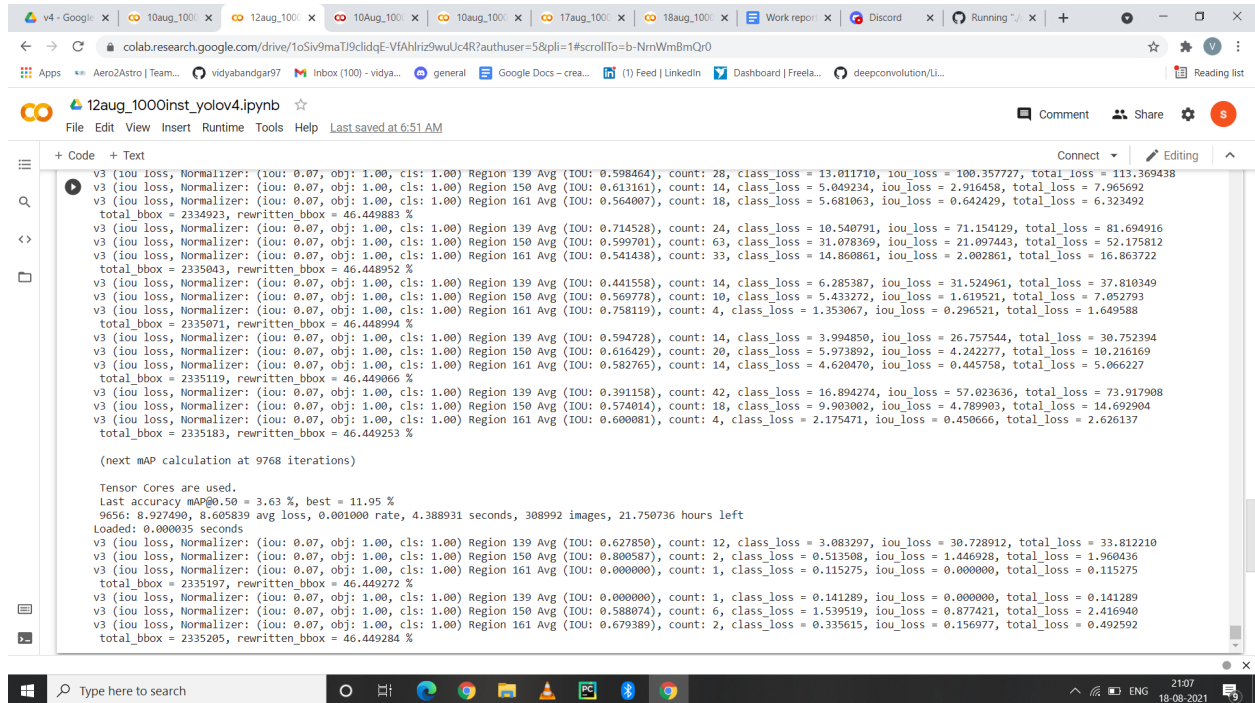


Work report

18 Aug 2021

yolov4 for 1000 instances.

Epochs 9686



Map

1.train

calculation mAP (mean average precision)...

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

1192

detections_count = 78750, unique_truth_count = 9852

class_id = 0, name = bird, ap = 66.81% (TP = 316, FP = 915)

class_id = 1, name = book, ap = 56.73% (TP = 614, FP = 550)

class_id = 2, name = bottle, ap = 81.34% (TP = 786, FP = 248)

class_id = 3, name = car, ap = 73.85% (TP = 4173, FP = 3095)

class_id = 4, name = person, ap = 88.02% (TP = 881, FP = 462)

class_id = 5, name = chair, ap = 81.05% (TP = 847, FP = 418)

for conf_thresh = 0.25, precision = 0.57, recall = 0.77, F1-score = 0.66

for conf_thresh = 0.25, TP = 7617, FP = 5688, FN = 2235, average IoU = 43.56 %

IoU threshold = 50 %, used Area-Under-Curve for each unique Recall

mean average precision (mAP@0.50) = 0.746347, or 74.63 %

Total Detection Time: 771 Seconds

2. Test

```

calculation mAP (mean average precision)...
Detection layer: 139 - type = 28
Detection layer: 150 - type = 28
Detection layer: 161 - type = 28
180
detections_count = 10940, unique_truth_count = 1995
class_id = 0, name = bird, ap = 15.15%      (TP = 45, FP = 66)
class_id = 1, name = book, ap = 1.04%      (TP = 6, FP = 109)
class_id = 2, name = bottle, ap = 14.15%   (TP = 42, FP = 80)
class_id = 3, name = car, ap = 6.39%       (TP = 157, FP = 609)
class_id = 4, name = chair, ap = 11.63%    (TP = 30, FP = 136)
class_id = 5, name = person, ap = 4.83%    (TP = 16, FP = 103)

for conf_thresh = 0.25, precision = 0.21, recall = 0.15, F1-score = 0.17
for conf_thresh = 0.25, TP = 296, FP = 1103, FN = 1699, average IoU = 15.93 %

IoU threshold = 50 %, used Area-Under-Curve for each unique Recall
mean average precision (mAP@0.50) = 0.088653, or 8.87 %
Total Detection Time: 137 Seconds

```

MAP(17.08.2021)

1. train

```

calculation mAP (mean average precision)...
Detection layer: 139 - type = 28
Detection layer: 150 - type = 28
Detection layer: 161 - type = 28
1192
detections_count = 44090, unique_truth_count = 9852
class_id = 0, name = bird, ap = 68.94%     (TP = 301, FP = 230)
class_id = 1, name = book, ap = 52.90%     (TP = 604, FP = 567)
class_id = 2, name = bottle, ap = 84.46%   (TP = 843, FP = 220)
class_id = 3, name = car, ap = 78.20%      (TP = 4267, FP = 1641)
class_id = 4, name = person, ap = 90.73%   (TP = 883, FP = 175)
class_id = 5, name = chair, ap = 90.19%    (TP = 882, FP = 210)

for conf_thresh = 0.25, precision = 0.72, recall = 0.79, F1-score = 0.75
for conf_thresh = 0.25, TP = 7780, FP = 3043, FN = 2072, average IoU = 55.38 %

IoU threshold = 50 %, used Area-Under-Curve for each unique Recall
mean average precision (mAP@0.50) = 0.775704, or 77.57 %
Total Detection Time: 88 Seconds

```

2. test

```

    calculation mAP (mean average precision)...
    Detection layer: 139 - type = 28
    Detection layer: 150 - type = 28
    Detection layer: 161 - type = 28
180
    detections_count = 5489, unique_truth_count = 1995
    class_id = 0, name = bird, ap = 17.75%      (TP = 41, FP = 29)
    class_id = 1, name = book, ap = 1.05%      (TP = 6, FP = 105)
    class_id = 2, name = bottle, ap = 15.43%   (TP = 44, FP = 65)
    class_id = 3, name = car, ap = 7.35%      (TP = 167, FP = 405)
    class_id = 4, name = chair, ap = 15.49%    (TP = 34, FP = 75)
    class_id = 5, name = person, ap = 13.07%   (TP = 21, FP = 61)

    for conf_thresh = 0.25, precision = 0.30, recall = 0.16, F1-score = 0.21
    for conf_thresh = 0.25, TP = 313, FP = 740, FN = 1682, average IoU = 22.64 %

    IoU threshold = 50 %, used Area-Under-Curve for each unique Recall
    mean average precision (mAP@0.50) = 0.116886, or 11.69 %
    Total Detection Time: 14 Seconds

```

Pp-yolo for 1000 instances

```

DONE (t=7.72s)
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, average FPS: 13.546782759184328

```