Aero2Astro Panneerselvam N (01/10/2021)

Today i had trained Yolo v4 model upto 5200 epochs and performed evaluation.

Train:

```
calculation mAP (mean average precision)...
Detection layer: 139 - type = 28
Detection layer: 150 - type = 28
Detection layer: 161 - type = 28
detections_count = 1305, unique_truth_count = 663
class_id = 0, name = tower_lattice, ap = 99.51%
                                                         (TP = 273, FP = 12)
class id = 1, name = tower_tucohy, ap = 95.84%
                                                         (TP = 163, FP = 17)
class id = 2, name = tower wooden, ap = 97.07%
                                                         (TP = 209, FP = 13)
for conf_thresh = 0.25, precision = 0.94, recall = 0.97, F1-score = 0.96
for conf_thresh = 0.25, TP = 645, FP = 42, FN = 18, average IoU = 81.11 %
IoU threshold = 50 %, used Area-Under-Curve for each unique Recall
mean average precision (mAP@0.50) = 0.974735, or 97.47 %
Total Detection Time: 53 Seconds
```

Test:

```
calculation mAP (mean average precision)...
Detection layer: 139 - type = 28
Detection layer: 150 - type = 28
Detection layer: 161 - type = 28
detections count = 488, unique truth count = 202
class id = 0, name = tower lattice, ap = 78.26%
                                                         (TP = 69, FP = 18)
class_id = 1, name = tower_tucohy, ap = 83.22%
                                                         (TP = 38, FP = 11)
class id = 2, name = tower wooden, ap = 56.44%
                                                         (TP = 36, FP = 15)
for conf thresh = 0.25, precision = 0.76, recall = 0.71, F1-score = 0.74
for conf_thresh = 0.25, TP = 143, FP = 44, FN = 59, average IoU = 62.54 %
IoU threshold = 50 %, used Area-Under-Curve for each unique Recall
mean average precision (mAP@0.50) = 0.726422, or 72.64 %
Total Detection Time: 17 Seconds
```

Detection Result:





