

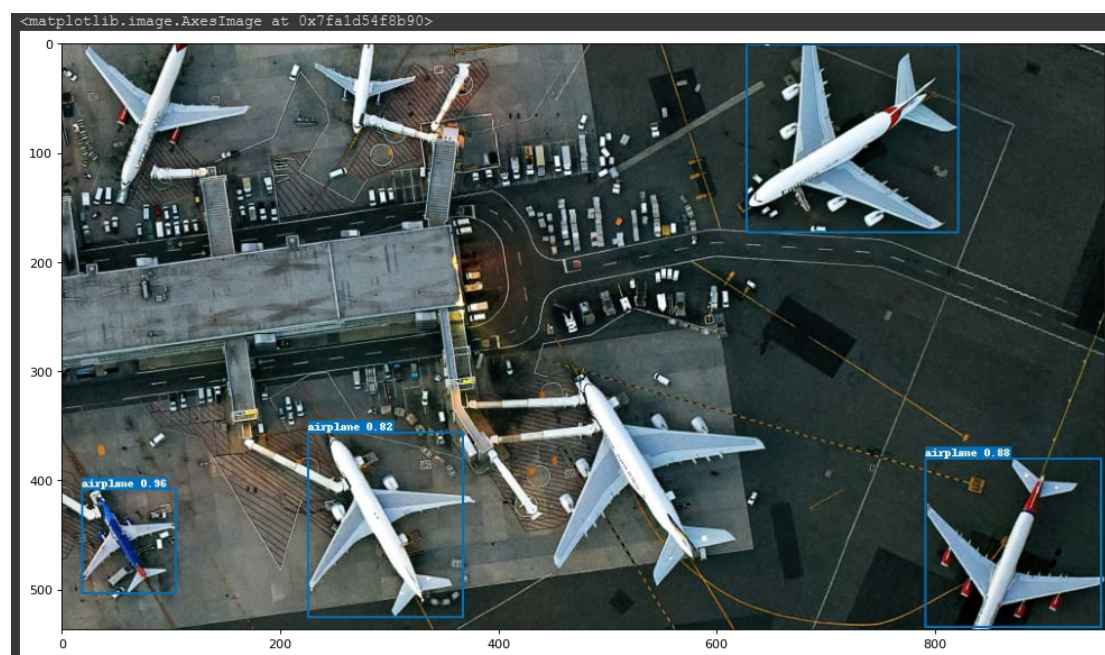
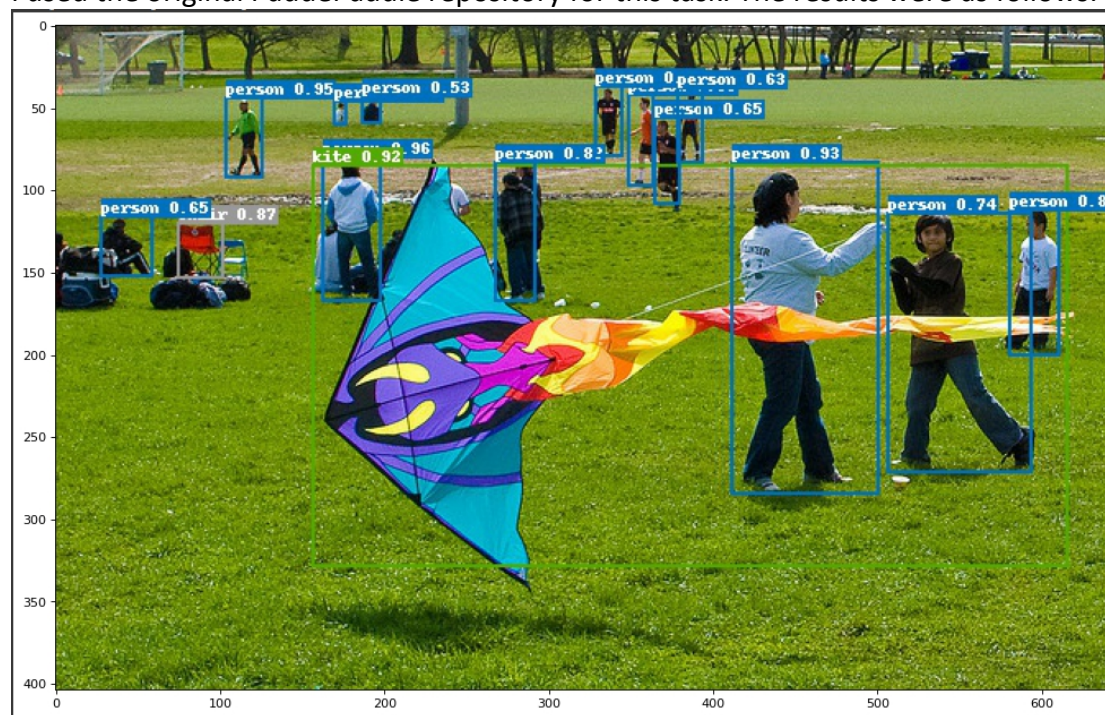
Work Report 1 July 2021  
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1. Implementation of PP YOLO:

Githublink:

[https://github.com/yushendye/AerialInspection/blob/main/PP\\_YOLO\\_Imple\\_1\\_July.ipynb](https://github.com/yushendye/AerialInspection/blob/main/PP_YOLO_Imple_1_July.ipynb)

I used the original PaddePaddle repository for this task. The results were as follows:



## 2. Training PP YOLO model on custom dataset

Github link:

[https://github.com/yushendye/AerialInspection/blob/main/PP\\_YOLO\\_Train\\_1\\_July.ipynb](https://github.com/yushendye/AerialInspection/blob/main/PP_YOLO_Train_1_July.ipynb)

The dataset we have been using so far was for YOLO v4. For PP YOLO, the dataset format needs to be different.

I was able to convert the YOLO v4 dataset as per requirement with help of code provided in link below:

<https://www.programmersought.com/article/43131872583/>

After reading the manual carefully I understood that for training PP YOLO we need to pass a YML file as a config. Therefore I created a YML file inside /content/PaddleDetection/configs/custom\_dataset.

After starting training I countered several errors as follows

```
if not isinstance(key, collections.Hashable):
[07/01 11:05:00] ppdet.utils.check ERROR: 'architecture' not specified in config file. Please set it in config file.
```

To solve this error, I added a architecture variable in YML file, This gave me further errors as follows.

```
/usr/local/lib/python3.7/dist-packages/IPython/utils/module_paths.py:29: DeprecationWarning: the
import imp
Traceback (most recent call last):
  File "/content/PaddleDetection/tools/train.py", line 140, in <module>
    main()
  File "/content/PaddleDetection/tools/train.py", line 116, in main
    cfg = load_config(FLAGS.config)
  File "/usr/local/lib/python3.7/dist-packages/ppdet/core/workspace.py", line 115, in load_conf
    cfg = _load_config_with_base(file_path)
  File "/usr/local/lib/python3.7/dist-packages/ppdet/core/workspace.py", line 80, in _load_conf
    file_cfg = yaml.load(f, Loader=yaml.Loader)
  File "/usr/local/lib/python3.7/dist-packages/yaml/_init_.py", line 72, in load
    return loader.get_single_data()
  File "/usr/local/lib/python3.7/dist-packages/yaml/constructor.py", line 35, in get_single_data
    node = self.get_single_node()
  File "/usr/local/lib/python3.7/dist-packages/yaml/composer.py", line 36, in get_single_node
    document = self.compose_document()
  File "/usr/local/lib/python3.7/dist-packages/yaml/composer.py", line 55, in compose_document
    node = self.compose_node(None, None)
  File "/usr/local/lib/python3.7/dist-packages/yaml/composer.py", line 84, in compose_node
    node = self.compose_mapping_node(anchor)
  File "/usr/local/lib/python3.7/dist-packages/yaml/composer.py", line 133, in compose_mapping_n
    item_value = self.compose_node(node, item_key)
  File "/usr/local/lib/python3.7/dist-packages/yaml/composer.py", line 84, in compose_node
    node = self.compose_mapping_node(anchor)
  File "/usr/local/lib/python3.7/dist-packages/yaml/composer.py", line 127, in compose_mapping_n
    while not self.check_event(MappingEndEvent):
  File "/usr/local/lib/python3.7/dist-packages/yaml/parser.py", line 98, in check_event
    self.current_event = self.state()
  File "/usr/local/lib/python3.7/dist-packages/yaml/parser.py", line 428, in parse_block_mapping
    if self.check_token(KeyToken):
  File "/usr/local/lib/python3.7/dist-packages/yaml/scanner.py", line 115, in check_token
    while self.need_more_tokens():
  File "/usr/local/lib/python3.7/dist-packages/yaml/scanner.py", line 149, in need_more_tokens
    self.stale_possible_simple_keys()
  File "/usr/local/lib/python3.7/dist-packages/yaml/scanner.py", line 289, in stale_possible_sim
    "could not find expected ':'", self.get_mark())
yaml.scanner.ScannerError: while scanning a simple key
  in "/content/PaddleDetection/configs/custom_dataset/custom_train.yml", line 10, column 1
could not find expected ':'
  in "/content/PaddleDetection/configs/custom_dataset/custom_train.yml", line 11, column 1
```

Final YML file looks like this:

```
num_classes: 6
architecture: ResNet
worker_num: 2
epoch: 100
save_dir: /content/PPYOLO/
TrainDataset:
  !COCODataset
  image_dir: /content/content/data/obj/
  anno_path: /content/COCO_annotations/annotations/train.json
  dataset_dir: /content/
  data_fields: ['images', 'gt_bbox', 'gt_class', 'is_crowd']

ResNet:
  depth: 101
  variant: d
  return_idx: [1, 2, 3]
  dcn_v2_stages: [3]
  freeze_at: -1
  freeze_norm: false
  norm_decay: 0.0
```

Finally after completing the YML files, it was being accepted and after that I got following error:

```
File "/usr/local/lib/python3.7/dist-packages/ppdet/engine/trainer.py", line 307, in train
    outputs = model(data)
File "/usr/local/lib/python3.7/dist-packages/paddle/fluid/dygraph/layers.py", line 902, in __call__
    outputs = self.forward(*inputs, **kwargs)
File "/usr/local/lib/python3.7/dist-packages/ppdet/modeling/backbones/resnet.py", line 572, in forward
    x = inputs['image']
KeyError: 'image'
```