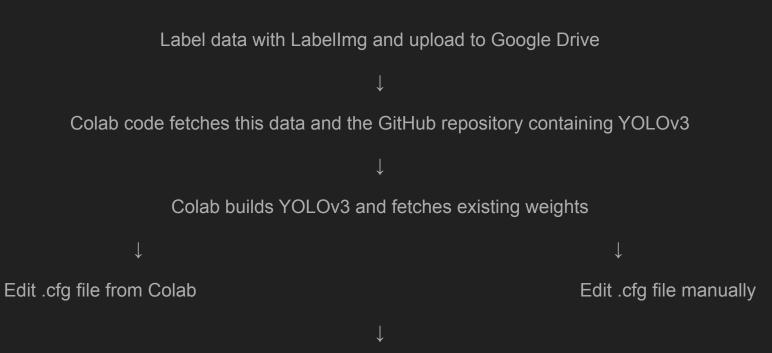
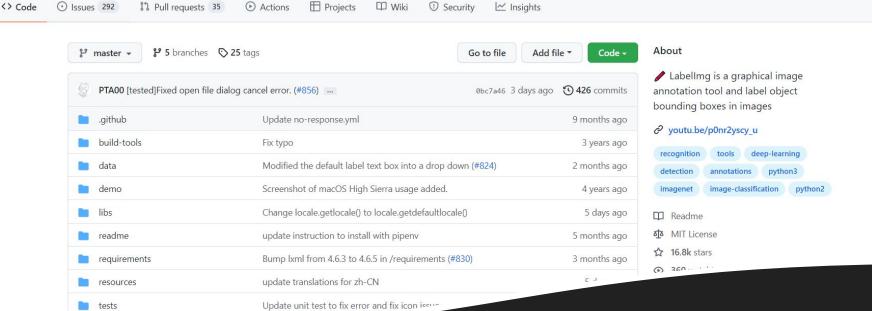
YOLOv3

Satvick and Tanmay

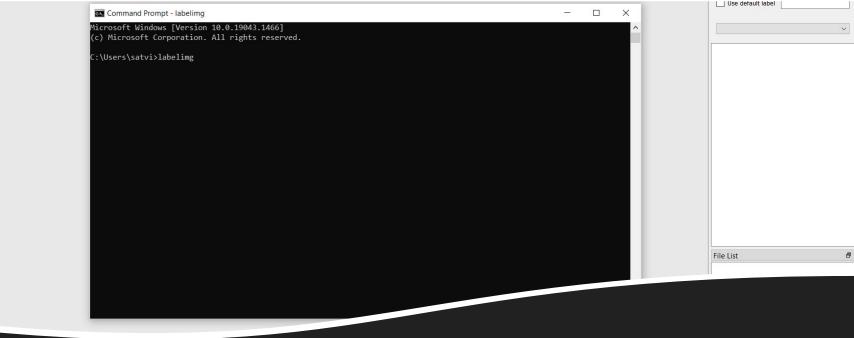
The approaches



Train!



Data labelling



Data labelling

Open Dir

Change Save Dir

Next Image

Prev Image

Verify Image

Save

YOLO

Create RectBox

Duplicate RectBox

Data labelling

Prev Image



Verify Image



Save

yolo

YOLO

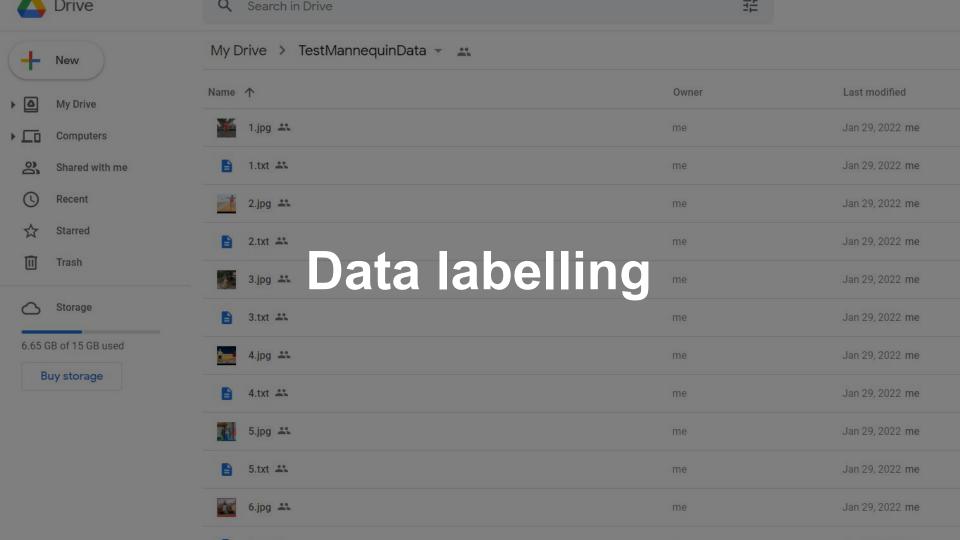


Create RectBox



Duplicate RectBox





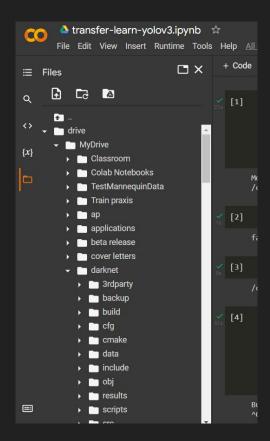
The code

```
1 import cv2
2 import matplotlib.pyplot as plt
3 %matplotlib inline
4 from google.colab import drive
5 drive.mount('/content/drive')
6 %cd /content/drive/My\ Drive

1 [wget "https://pjreddie.com/media/files/darknet53.conv.74"]
```

```
1 !sed -i 's/OPENCV=0/OPENCV=1/' Makefile
2 !sed -i 's/GPU=0/GPU=1/' Makefile
3 !sed -i 's/CUDNN=0/CUDNN=1/' Makefile
4
5 print("Building. . . It might take 2-3 minutes")
6
7 !make &> build_log.txt
```

Editing the config file



```
1 # Change lines in yolov3.cfg file
2 !sed -i 's/batch=1/batch=64/' cfg/yolov3_training.cfg
3 !sed -i 's/subdivisions=1/subdivisions=16/' cfg/yolov3_training.cfg
4 !sed -i 's/max_batches = 500200/max_batches = 2000/' cfg/yolov3_training.cfg
5 !sed -i '610 s@classes=80@classes=1@' cfg/yolov3_training.cfg
6 !sed -i '696 s@classes=80@classes=1@' cfg/yolov3_training.cfg
7 !sed -i '783 s@classes=80@classes=1@' cfg/yolov3_training.cfg
8 !sed -i '603 s@filters=255@filters=18@' cfg/yolov3_training.cfg
9 !sed -i '689 s@filters=255@filters=18@' cfg/yolov3_training.cfg
10 !sed -i '776 s@filters=255@filters=18@' cfg/yolov3_training.cfg
```

My Drive → darknet ▼					
Name 1		Owner	Last modified		
	circleci	me	Jan 29, 2022 me		
I	git	me	Jan 29, 2022 me		
•	github	me	Jan 29, 2022 me		
3	Brdparty	me	Jan 29, 2022 me		
	oackup	me	Jan 29, 2022 me		
in t	build	me	Jan 29, 2022 me		
	rfg	me	Jan 29, 2022 me		
	emake	me	Jan 29, 2022 me		
	iata	me	Jan 29, 2022 me		
i i	nclude	me	Jan 29, 2022 me		
	obj	me	Jan 29, 2022 me		

Training!

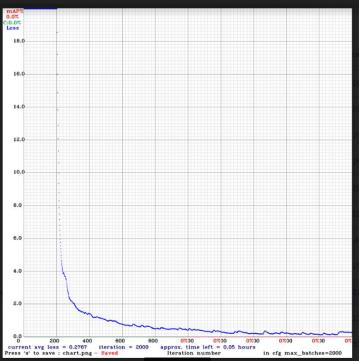
total bbox = 137127, rewritten bbox = 0.000000 %

0 1 ./darknet detector train data/mannequin.data cfg/mannequin-yolov3.cfg backup/mannequin.weights -dont show -i 0 -map Streaming output truncated to the last 5000 lines. v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.882222), count: 4, class loss = 0.029965, iou loss = 0.039285, total loss = 0.069250 v3 (mse loss, Normalizer: (iou: 0.75, obi: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.698238), count: 1, class loss = 0.058806, iou loss = 0.037975, total loss = 0.096781 total bbox = 137092, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.865038), count: 4, class loss = 0.007067, iou loss = 0.092932, total loss = 0.099999 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.772105), count: 1, class loss = 0.003791, iou loss = 0.027093, total loss = 0.030884 total bbox = 137097, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.845279), count: 4, class loss = 0.158490, iou loss = 0.141817, total loss = 0.300307 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.000000), count: 1, class loss = 0.000002, iou loss = 0.000000, total loss = 0.0000002 total bbox = 137101, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.851233), count: 4, class loss = 0.318688, iou loss = 0.047513, total loss = 0.366201 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.884151), count: 1, class loss = 0.000366, iou loss = 0.024628, total loss = 0.024994 total bbox = 137106, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obi: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.822259), count: 4, class loss = 0.218120, iou loss = 0.154594, total loss = 0.372714 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.000000), count: 1, class loss = 0.000001, iou loss = 0.000000, total loss = 0.0000001 total bbox = 137110, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.913357), count: 3, class loss = 0.013633, iou loss = 0.056007, total loss = 0.069640 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.830693), count: 1, class loss = 0.000078, iou loss = 0.016115, total loss = 0.016194 total bbox = 137114, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obi: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.822880), count: 3, class loss = 0.055851, iou loss = 0.054491, total loss = 0.110341 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.832725), count: 1, class loss = 0.010332, iou loss = 0.012221, total loss = 0.022553 total bbox = 137118, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.895673), count: 2, class loss = 0.000087, iou loss = 0.047051, total loss = 0.047138 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.833687), count: 2, class loss = 0.103334, iou loss = 0.081124, total loss = 0.184458 total bbox = 137122, rewritten bbox = 0.000000 % v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.897421), count: 4, class loss = 0.014300, iou loss = 0.024970, total loss = 0.039270 v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.840489), count: 1, class loss = 0.000207, iou loss = 0.034479, total loss = 0.034686

v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 16 Avg (IOU: 0.841156), count: 4, class_loss = 0.161225, iou_loss = 0.213085, total_loss = 0.374309
v3 (mse loss, Normalizer: (iou: 0.75, obj: 1.00, cls: 1.00) Region 23 Avg (IOU: 0.000000), count: 1, class loss = 0.000004, iou loss = 0.000000, total loss = 0.0000004

The payoff (kind of)





The weights file(s)

My Drive > darknet > backup -					
Name ↑	Owner	Last modified	File size		
.ipynb_checkpoints	me	Jan 29, 2022 me	-		
mannequin-yolov3_1000.weights	me	Feb 22, 2022 me	33.1 MB		
mannequin-yolov3_2000.weights	me	Feb 22, 2022 me	33.1 MB		
mannequin-yolov3_best.weights	me	Feb 22, 2022 me	33.1 MB		
mannequin-yolov3_final.weights	me	Feb 22, 2022 me	33.1 MB		
mannequin-yolov3_last.weights	me	Feb 22, 2022 me	33.1 MB		
mannequin.weights	me	Jan 29, 2022 me	0 bytes		



Testing:(