Report

Hyperparameters

All parameters can be found in the file SSD/ssd/configs/defaults.py and SSD/configs/train_tdt4265.yaml.

How to train

Train the model by executing

- python3 train.py configs/train_tdt4265.yaml

The default environment is used. The model is not pretrained on the waymo dataset.

Augmentations

Image transformations:

- Randomsamplecrop()
- RandomMirror()
- Resize(), size = 1080x810
- RandomLightningNoise()

Model:

- Features are detected from 8 levels (original model had 6)

Architecture					
Is output	Layer name	Layer Type	Kernel size	Number of Filters	Stride
		Conv2d	7x7	64	2
		Bn	-	-	-
		ReLU	-	-	-
		MaxPool2D	3x3	-	2
	Layer1	3x			
		Conv2d	3x3	64	1
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	64	1
		Bn	-	-	-
	Layer2	Conv2d	3x3	128	2
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	128	1
		Bn	-	-	-
		Conv2d	1x1	128	2
		Bn	-	-	-
		3x			
		Conv2d	3x3	128	1
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	128	1
		Bn	-	-	-
Yes – Res: 102 x 135					
	Layer3	Conv2d	3x3	256	2
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	256	1
		Bn	-	-	-
		Conv2d	1x1	256	2
		Bn	-	-	-
		5x			
		Conv2d	3x3	256	1
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	256	1
		Bn	-	-	-
Yes – Res: 51 x 68					
	Layer4	Conv2d	3x3	512	2
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	512	1
		Bn	-	-	-
		Conv2d	1x1	512	2
		Bn	-	-	-
		2x			
		Conv2d	3x3	512	1
		Bn	-	-	-
		ReLU	-	-	-
		Conv2d	3x3	512	1
Yes – Res: 26 x 34		Bn	-	-	-

Yes – Res: 14 x 17		Conv2d ReLU	2x4 -	256 -	2 -
Yes – Res: 7 x 9		Conv2d Bn ReLU Conv2d Bn Conv2d ReLU	3x3 - - 3x3 - 3x3 -	256 - - 256 - 256 -	2 - - 1 - 2 -
Yes – Res: 5 x 6		Conv2d ReLU	3x4 -	256 -	1 -
Yes – Res: 3 x 3		Conv2d ReLU	3x4 -	256 -	1 -
Yes – Res: 1 x 1		Conv2d ReLU	3x3 -	256 -	2 -