CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 600, cudnn\_half = 0, GPU: Tesla P100-PCIE-16GB

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../1.jpg: Predicted in 33.416000 milli-seconds.

pottedplant: 30%

pottedplant: 89%

car: 99%

motorbike: 50%

car: 99%

Unable to init server: Could not connect: Connection refused

(predictions:2307): Gtk-**WARNING** \*\*: 07:39:07.897: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 600, cudnn\_half = 0, GPU: Tesla P100-PCIE-16GB

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../2.jpg: Predicted in 33.905000 milli-seconds.

car: 37%

car: 95%

car: 97%

car: 66%

car: 98%

car: 83%

car: 30%

car: 56%

car: 78%

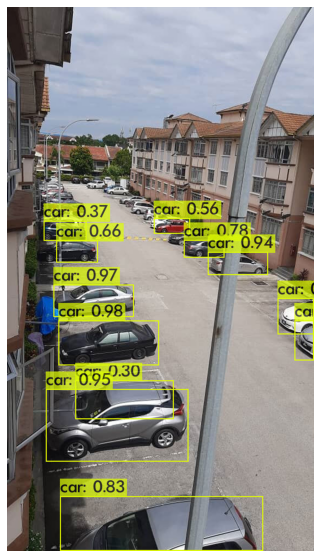
car: 94%

car: 86%

car: 54%

Unable to init server: Could not connect: Connection refused

(predictions:2355): Gtk-**WARNING** \*\*: 08:00:34.464: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 600, cudnn\_half = 0, GPU: Tesla P100-PCIE-16GB

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../3.jpg: Predicted in 33.160000 milli-seconds.

car: 51%

car: 88%

car: 99%

car: 80%

car: 100%

car: 30%

car: 89%

car: 47%

car: 99%

car: 42%

car: 89%

person: 66%

car: 99%

car: 98%

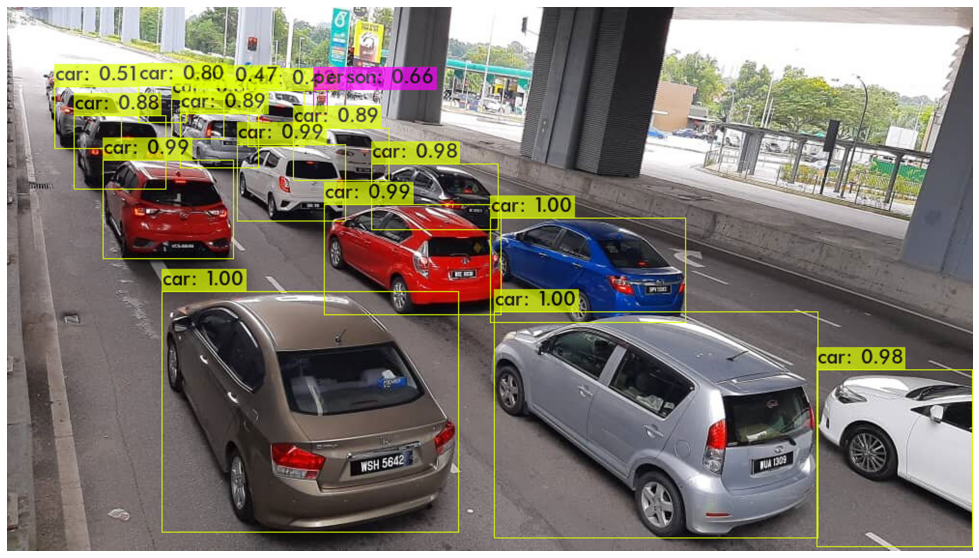
car: 100%

car: 100%

car: 98%

Unable to init server: Could not connect: Connection refused

(predictions:2394): Gtk-**WARNING** \*\*: 08:03:24.273: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../4.jpg: Predicted in 54.722000 milli-seconds.

motorbike: 99%

motorbike: 98%

motorbike: 98%

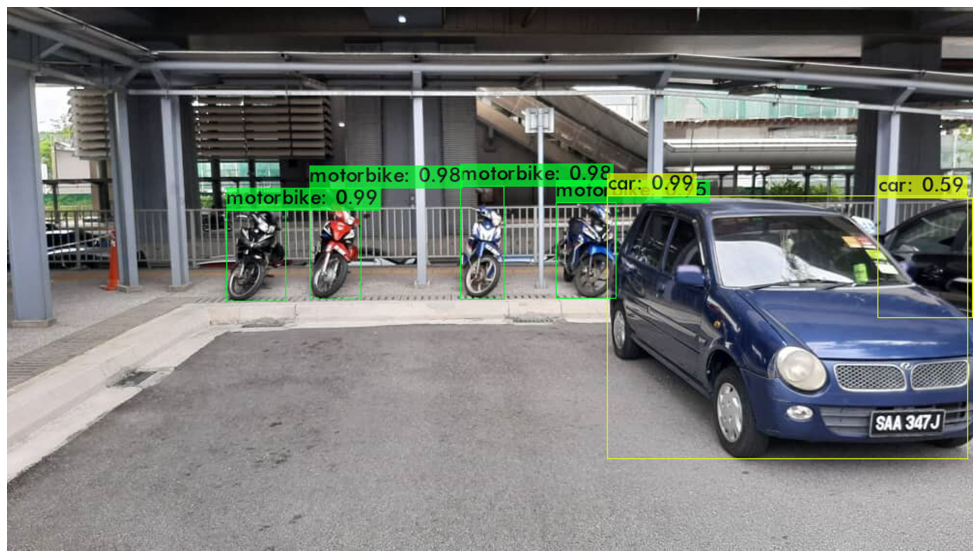
motorbike: 95%

car: 99%

car: 59%

Unable to init server: Could not connect: Connection refused

(predictions:1223): Gtk-**WARNING** \*\*: 08:31:44.153: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../5.jpg: Predicted in 54.725000 milli-seconds.

truck: 85%

bus: 99%

Unable to init server: Could not connect: Connection refused

(predictions:1253): Gtk-**WARNING** \*\*: 08:34:53.298: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../6.jpg: Predicted in 54.705000 milli-seconds.

car: 78%

truck: 38%

car: 32%

car: 51%

person: 71%

car: 64%

car: 48%

car: 31%

car: 73%

car: 81%

car: 95%

car: 98%

car: 57%

car: 83%

Unable to init server: Could not connect: Connection refused

(predictions:1283): Gtk-**WARNING** \*\*: 08:40:58.415: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../7.jpg: Predicted in 54.816000 milli-seconds.

car: 40%

car: 36%

car: 53%

car: 87%

truck: 43%

car: 32%

car: 91%

car: 96%

car: 99%

car: 99%

Unable to init server: Could not connect: Connection refused

(predictions:1310): Gtk-**WARNING** \*\*: 08:42:26.321: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../8.jpg: Predicted in 54.717000 milli-seconds.

car: 94%

car: 100%

car: 97%

car: 89%

car: 80%

car: 66%

car: 84%

car: 38%

car: 44%

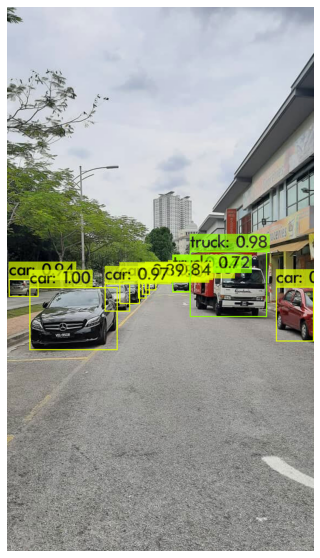
truck: 72%

truck: 98%

car: 99%

Unable to init server: Could not connect: Connection refused

(predictions:1346): Gtk-**WARNING** \*\*: 08:45:32.406: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../9.jpg: Predicted in 54.821000 milli-seconds.

traffic light: 71%

car: 27%

truck: 93%

traffic light: 67%

car: 99%

car: 92%

car: 79%

truck: 31%

car: 76%

car: 99%

car: 88%

car: 95%

car: 35%

car: 54%

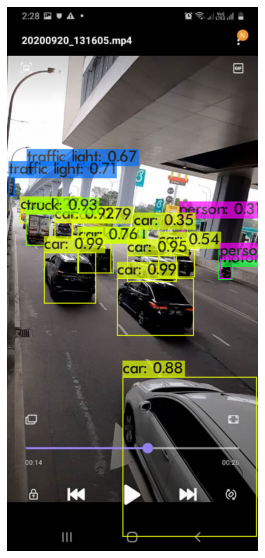
person: 31%

motorbike: 56%

person: 60%

Unable to init server: Could not connect: Connection refused

(predictions:1376): Gtk-**WARNING** \*\*: 08:47:08.218: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../10.jpg: Predicted in 55.048000 milli-seconds.

traffic light: 34%

traffic light: 84%

car: 64%

car: 88%

traffic light: 66%

truck: 79%

bus: 31%

car: 99%

car: 95%

car: 54%

truck: 28%

car: 58%

car: 99%

traffic light: 40%

car: 97%

car: 99%

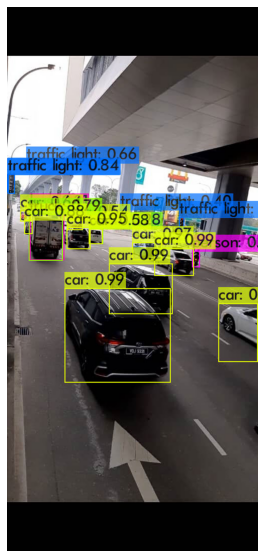
traffic light: 43%

person: 44%

car: 91%

Unable to init server: Could not connect: Connection refused

(predictions:1415): Gtk-**WARNING** \*\*: 08:49:17.087: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../11.jpg: Predicted in 54.701000 milli-seconds.

car: 34%

traffic light: 75%

car: 39%

car: 91%

car: 98%

car: 69%

car: 99%

car: 28%

truck: 28%

car: 83%

car: 46%

car: 99%

car: 56%

person: 52%

motorbike: 41%

car: 80%

car: 95%

traffic light: 57%

car: 93%

car: 93%

Unable to init server: Could not connect: Connection refused

(predictions:1733): Gtk-**WARNING** \*\*: 09:08:02.583: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../12.jpg: Predicted in 54.710000 milli-seconds.

truck: 97%

car: 94%

car: 90%

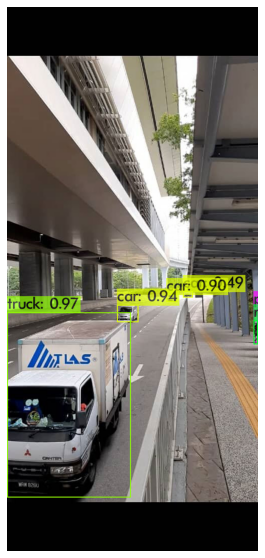
car: 49%

motorbike: 52%

person: 43%

Unable to init server: Could not connect: Connection refused

(predictions:1757): Gtk-**WARNING** \*\*: 09:08:47.672: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../13.jpg: Predicted in 54.754000 milli-seconds.

person: 34%

car: 99%

car: 100%

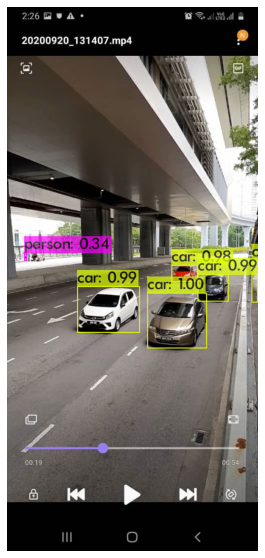
car: 98%

car: 99%

car: 29%

Unable to init server: Could not connect: Connection refused

(predictions:1787): Gtk-**WARNING** \*\*: 09:09:50.924: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../14.jpg: Predicted in 54.671000 milli-seconds.

car: 29%

car: 100%

car: 99%

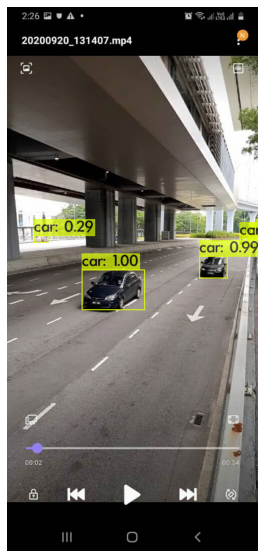
car: 50%

car: 32%

car: 25%

Unable to init server: Could not connect: Connection refused

(predictions:1808): Gtk-**WARNING** \*\*: 09:10:20.971: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../15.jpg: Predicted in 54.800000 milli-seconds.

car: 69%

car: 99%

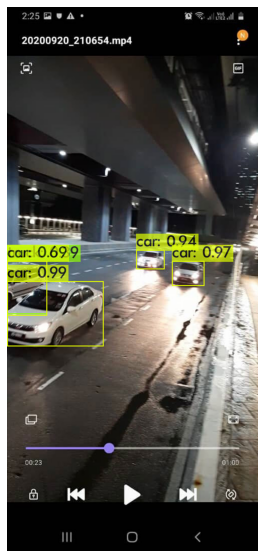
truck: 39%

car: 94%

car: 97%

Unable to init server: Could not connect: Connection refused

(predictions:1829): Gtk-**WARNING** \*\*: 09:10:51.835: cannot open display:



CUDA-version: 10010 (10010), cuDNN: 7.6.5, CUDNN\_HALF=1, GPU count: 1

CUDNN\_HALF=1

OpenCV version: 3.2.0

0 : compute\_capability = 750, cudnn\_half = 1, GPU: Tesla T4

net.optimized\_memory = 0

mini\_batch = 1, batch = 8, time\_steps = 1, train = 0

layer filters size/strd(dil) input output

0 conv 32 3 x 3/ 1 608 x 608 x 3 -> 608 x 608 x 32 0.639 BF

1 conv 64 3 x 3/ 2 608 x 608 x 32 -> 304 x 304 x 64 3.407 BF

2 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

3 route 1 -> 304 x 304 x 64

4 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

5 conv 32 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 32 0.379 BF

6 conv 64 3 x 3/ 1 304 x 304 x 32 -> 304 x 304 x 64 3.407 BF

7 Shortcut Layer: 4, wt = 0, wn = 0, outputs: 304 x 304 x 64 0.006 BF

8 conv 64 1 x 1/ 1 304 x 304 x 64 -> 304 x 304 x 64 0.757 BF

9 route 8 2 -> 304 x 304 x 128

10 conv 64 1 x 1/ 1 304 x 304 x 128 -> 304 x 304 x 64 1.514 BF

11 conv 128 3 x 3/ 2 304 x 304 x 64 -> 152 x 152 x 128 3.407 BF

12 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

13 route 11 -> 152 x 152 x 128

14 conv 64 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 64 0.379 BF

15 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

16 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

17 Shortcut Layer: 14, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

18 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

19 conv 64 3 x 3/ 1 152 x 152 x 64 -> 152 x 152 x 64 1.703 BF

20 Shortcut Layer: 17, wt = 0, wn = 0, outputs: 152 x 152 x 64 0.001 BF

21 conv 64 1 x 1/ 1 152 x 152 x 64 -> 152 x 152 x 64 0.189 BF

22 route 21 12 -> 152 x 152 x 128

23 conv 128 1 x 1/ 1 152 x 152 x 128 -> 152 x 152 x 128 0.757 BF

24 conv 256 3 x 3/ 2 152 x 152 x 128 -> 76 x 76 x 256 3.407 BF

25 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

26 route 24 -> 76 x 76 x 256

27 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

28 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

29 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

30 Shortcut Layer: 27, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

31 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

32 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

33 Shortcut Layer: 30, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

34 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

35 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

36 Shortcut Layer: 33, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

37 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

38 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

39 Shortcut Layer: 36, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

40 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

41 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

42 Shortcut Layer: 39, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

43 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

44 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

45 Shortcut Layer: 42, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

46 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

47 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

48 Shortcut Layer: 45, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

49 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

50 conv 128 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 128 1.703 BF

51 Shortcut Layer: 48, wt = 0, wn = 0, outputs: 76 x 76 x 128 0.001 BF

52 conv 128 1 x 1/ 1 76 x 76 x 128 -> 76 x 76 x 128 0.189 BF

53 route 52 25 -> 76 x 76 x 256

54 conv 256 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 256 0.757 BF

55 conv 512 3 x 3/ 2 76 x 76 x 256 -> 38 x 38 x 512 3.407 BF

56 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

57 route 55 -> 38 x 38 x 512

58 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

59 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

60 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

61 Shortcut Layer: 58, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

62 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

63 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

64 Shortcut Layer: 61, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

65 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

66 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

67 Shortcut Layer: 64, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

68 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

69 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

70 Shortcut Layer: 67, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

71 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

72 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

73 Shortcut Layer: 70, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

74 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

75 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

76 Shortcut Layer: 73, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

77 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

78 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

79 Shortcut Layer: 76, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

80 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

81 conv 256 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 256 1.703 BF

82 Shortcut Layer: 79, wt = 0, wn = 0, outputs: 38 x 38 x 256 0.000 BF

83 conv 256 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 256 0.189 BF

84 route 83 56 -> 38 x 38 x 512

85 conv 512 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 512 0.757 BF

86 conv 1024 3 x 3/ 2 38 x 38 x 512 -> 19 x 19 x1024 3.407 BF

87 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

88 route 86 -> 19 x 19 x1024

89 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

90 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

91 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

92 Shortcut Layer: 89, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

93 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

94 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

95 Shortcut Layer: 92, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

96 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

97 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

98 Shortcut Layer: 95, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

99 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

100 conv 512 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x 512 1.703 BF

101 Shortcut Layer: 98, wt = 0, wn = 0, outputs: 19 x 19 x 512 0.000 BF

102 conv 512 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.189 BF

103 route 102 87 -> 19 x 19 x1024

104 conv 1024 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x1024 0.757 BF

105 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

106 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

107 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

108 max 5x 5/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.005 BF

109 route 107 -> 19 x 19 x 512

110 max 9x 9/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.015 BF

111 route 107 -> 19 x 19 x 512

112 max 13x13/ 1 19 x 19 x 512 -> 19 x 19 x 512 0.031 BF

113 route 112 110 108 107 -> 19 x 19 x2048

114 conv 512 1 x 1/ 1 19 x 19 x2048 -> 19 x 19 x 512 0.757 BF

115 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

116 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

117 conv 256 1 x 1/ 1 19 x 19 x 512 -> 19 x 19 x 256 0.095 BF

118 upsample 2x 19 x 19 x 256 -> 38 x 38 x 256

119 route 85 -> 38 x 38 x 512

120 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

121 route 120 118 -> 38 x 38 x 512

122 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

123 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

124 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

125 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

126 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

127 conv 128 1 x 1/ 1 38 x 38 x 256 -> 38 x 38 x 128 0.095 BF

128 upsample 2x 38 x 38 x 128 -> 76 x 76 x 128

129 route 54 -> 76 x 76 x 256

130 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

131 route 130 128 -> 76 x 76 x 256

132 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

133 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

134 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

135 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

136 conv 128 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 128 0.379 BF

137 conv 256 3 x 3/ 1 76 x 76 x 128 -> 76 x 76 x 256 3.407 BF

138 conv 255 1 x 1/ 1 76 x 76 x 256 -> 76 x 76 x 255 0.754 BF

139 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.20

nms\_kind: greedynms (1), beta = 0.600000

140 route 136 -> 76 x 76 x 128

141 conv 256 3 x 3/ 2 76 x 76 x 128 -> 38 x 38 x 256 0.852 BF

142 route 141 126 -> 38 x 38 x 512

143 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

144 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

145 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

146 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

147 conv 256 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 256 0.379 BF

148 conv 512 3 x 3/ 1 38 x 38 x 256 -> 38 x 38 x 512 3.407 BF

149 conv 255 1 x 1/ 1 38 x 38 x 512 -> 38 x 38 x 255 0.377 BF

150 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.10

nms\_kind: greedynms (1), beta = 0.600000

151 route 147 -> 38 x 38 x 256

152 conv 512 3 x 3/ 2 38 x 38 x 256 -> 19 x 19 x 512 0.852 BF

153 route 152 116 -> 19 x 19 x1024

154 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

155 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

156 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

157 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

158 conv 512 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 512 0.379 BF

159 conv 1024 3 x 3/ 1 19 x 19 x 512 -> 19 x 19 x1024 3.407 BF

160 conv 255 1 x 1/ 1 19 x 19 x1024 -> 19 x 19 x 255 0.189 BF

161 yolo

[yolo] params: iou loss: ciou (4), iou\_norm: 0.07, obj\_norm: 1.00, cls\_norm: 1.00, delta\_norm: 1.00, scale\_x\_y: 1.05

nms\_kind: greedynms (1), beta = 0.600000

Total BFLOPS 128.459

avg\_outputs = 1068395

Allocate additional workspace\_size = 52.43 MB

Loading weights from yolov4.weights...

seen 64, trained: 32032 K-images (500 Kilo-batches\_64)

Done! Loaded 162 layers from weights-file

Detection layer: 139 - type = 28

Detection layer: 150 - type = 28

Detection layer: 161 - type = 28

../16.jpg: Predicted in 54.864000 milli-seconds.

car: 91%

car: 99%

car: 94%

car: 96%

Unable to init server: Could not connect: Connection refused

(predictions:1853): Gtk-**WARNING** \*\*: 09:11:33.461: cannot open display:

