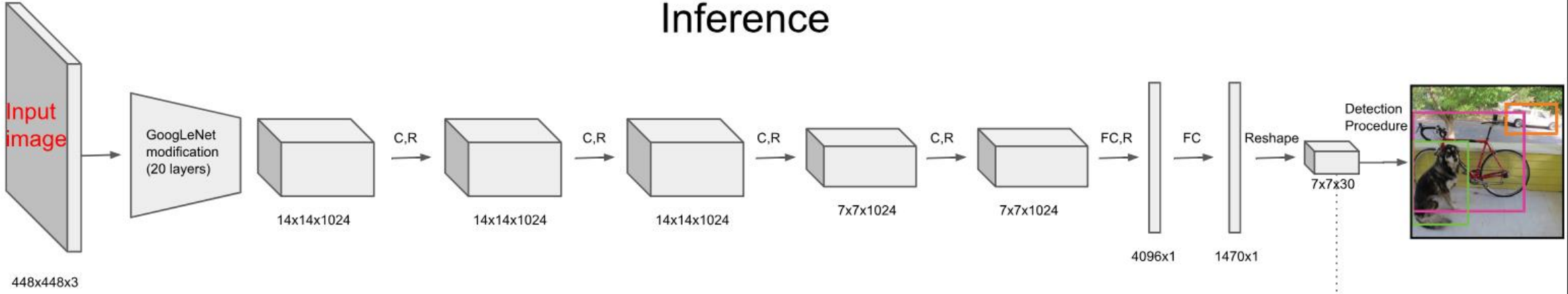
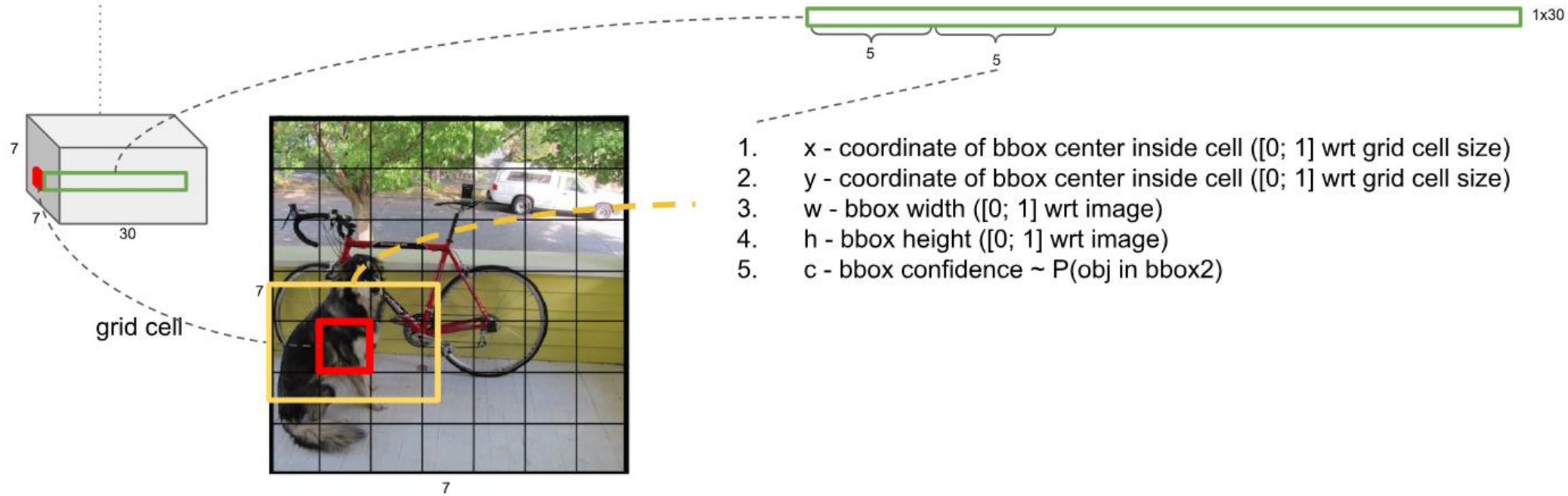
Inference

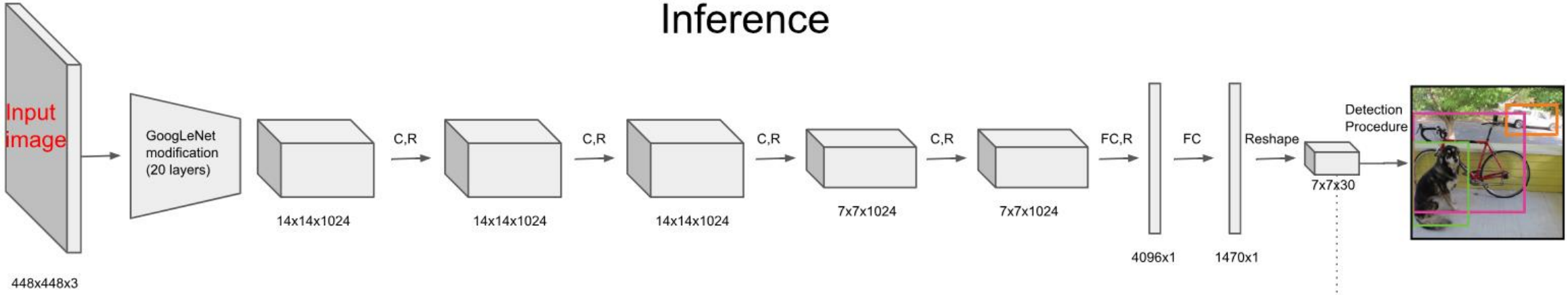


Tensor values interpretation

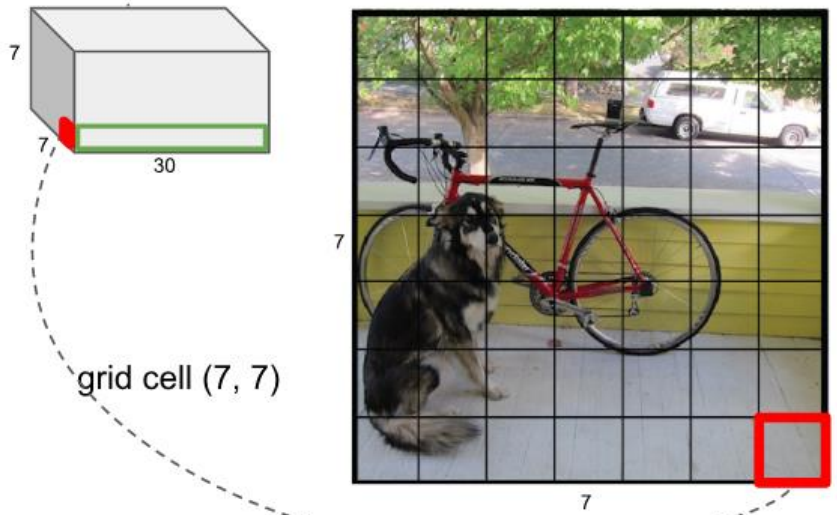


1. x - coordinate of bbox center inside cell ([0; 1] wrt grid cell size)
2. y - coordinate of bbox center inside cell ([0; 1] wrt grid cell size)
3. w - bbox width ([0; 1] wrt image)
4. h - bbox height ([0; 1] wrt image)
5. c - bbox confidence ~ P(obj in bbox2)

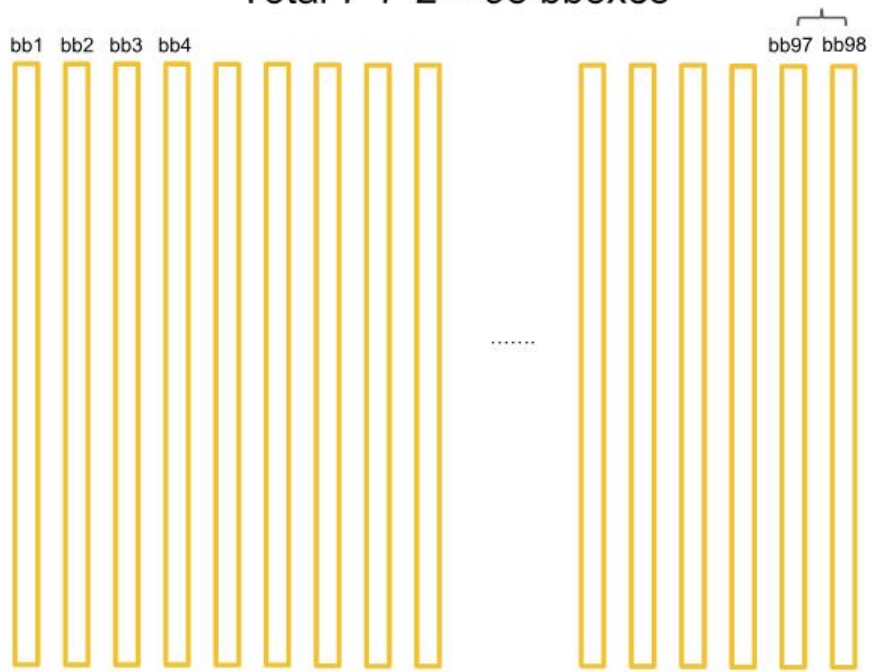
Inference



Tensor values interpretation



Total 7*7*2 = 98 bboxes



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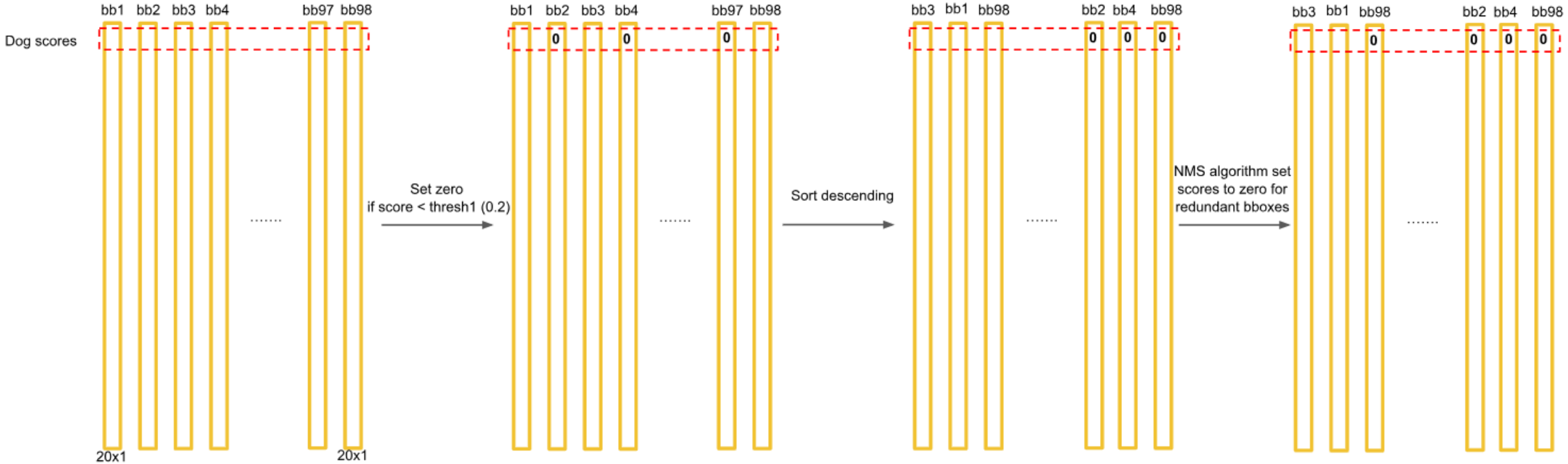
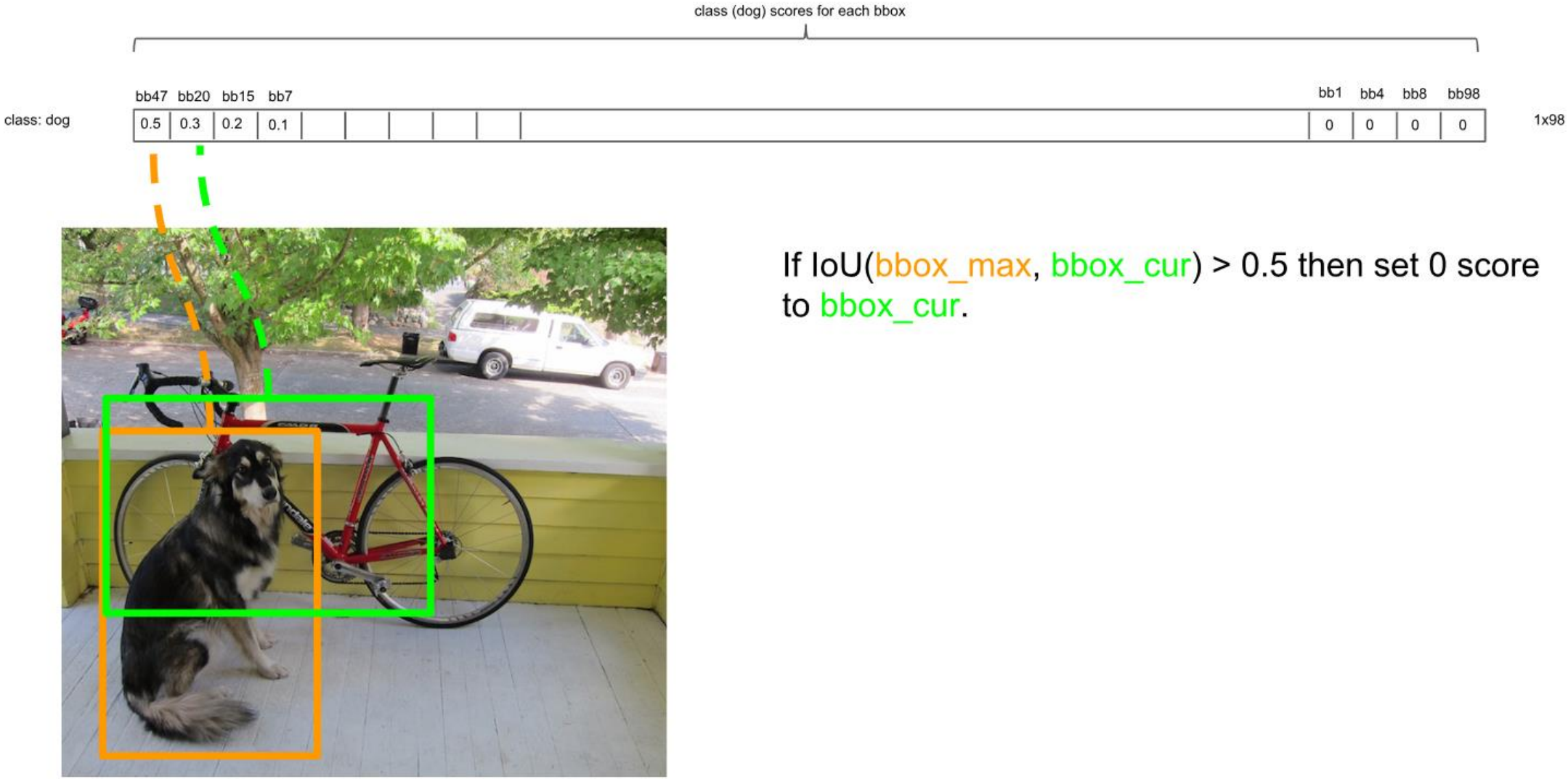
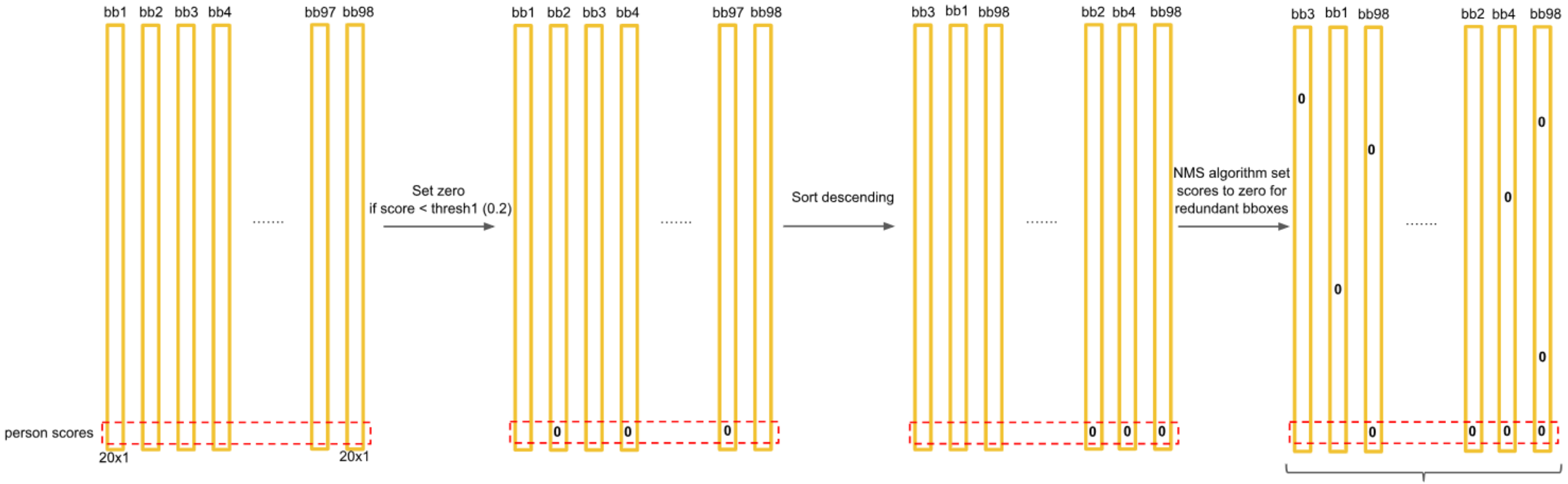

Dog scores
bb1 bb2 bb3 bb4 ..... bb97 bb98
20x1
20x1
Set zero
if score < thresh1 (0.2)
bb1 bb2 bb3 bb4 ..... bb97 bb98
0 0 0
Sort descending
bb3 bb1 bb98 ..... bb2 bb4 bb98
0 0 0
NMS algorithm set
scores to zero for
redundant bboxes
bb3 bb1 bb98 ..... bb2 bb4 bb98
0 0 0 0

Non-Maximum Suppression: intuition



If IoU(bbox_max, bbox_cur) > 0.5 then set 0 score to bbox_cur.



After this procedure -
a lot of zeros

bb1 bb2 bb3 bb4
bb97 bb98
20x1
20x1
Set zero
if score < thresh1 (0.2)
Sort descending
bb3 bb1 bb98
bb2 bb4 bb97
NMS algorithm set
scores to zero for
redundant bboxes
class = max_index(scores for bb97);
score = max(scores for bb97);
Score > 0
no
skip bbox
yes
draw bbox with class color

Reference:

deepsystems.io, https://docs.google.com/presentation/d/1aeRvtKG21KHdD5lg6Hgyhx5rPq_ZOsGjG5rJ1HP7BbA/pub?start=false&loop=false&delayms=3000&slide=id.g137784ab86_4_1509