Pure NMS net: For now decisions are based on detection scores and one “depends” on other detections close by

Matching loss:
Typically one convnet, since Faster Detectors still use hand-crafted NMS!

Learning non-maximum suppression

Can we train a neural network to perform NMS?

Approach: Neural network for NMS
Pure NMS net: For now decisions are based on detection scores and geometry
Resoring: Update score of every detection (instead of suppressing a detection, we decrease its score)

Key ingredients
What is necessary to train a neural net to output exactly one detection per object?

• Matching loss: penalize double detections
• Joint processing of neighbors: whether a detection is the “best one” depends on other detections close by

References

Experiments: COCO multiclass

Experiments: COCO persons