

Supplementary material

A. The examples of missed detections and false positives

In Figure 1 we show more examples of missed detections and false positives before and after applying RepLoss. The blue bounding boxes represent false positives, and the red ones represent the missed detections. The examples above the grey dashed line are to demonstrate the effectiveness of proposed RepLoss on *eliminating false positives*, while those below the grey dashed line are to demonstrate the effectiveness of proposed RepLoss on *detecting more missed pedestrians*.

B. More examples on CityPersons

In Figure 2, we demonstrate more examples on challenging CityPersons dataset. Green bounding boxes are predicted pedestrians whose score (in range $[0, 1.0]$) is at a relatively high threshold (greater than 0.8 in this case).



Figure 1. Comparison of baseline and RepLoss. The blue bounding boxes represent false positives, and the red ones represent the missed detections. On two sides of the grey dashed line, samples on the first row of each side are predictions of our baseline, while samples on the second row of each side are the predictions after adding the RepLoss.



Figure 2. More examples on CityPersons dataset. Green bounding boxes are predicted pedestrians whose score ([0, 1.0]) is greater than 0.8.