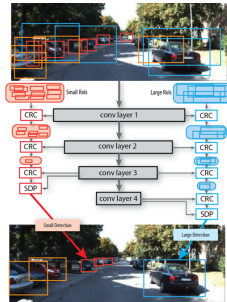


Exploit All the Layers: Fast and Accurate CNN Object Detector with Scale Dependent Pooling and Cascaded Rejection Classifiers

F. Yang, W. Choi, and Y. Lin (CVPR 2016)



- ▶ Current approaches (Fast RCNN):
 - ▶ Problems with small objects
 - ▶ Not applicable to very deep architectures due to multi-scale input
 - ▶ Other time constraints due to huge number candidate bounding boxes
- ▶ Two new strategies to object detection using CNNs:
 - ▶ Layer-wise cascaded rejection classifiers (CRC) to reject easy negatives in all layers
 - ▶ Evaluating surviving proposals using scale-dependent pooling (SDP)
Representing a candidate bounding box using the convolutional features pooled from a layer corresponding to its scale (height)
- ▶ Better accuracy compared to state-of-the-art on PASCAL, KITTI, and newly collected Inner-city dataset