PhD

Selective Search for Object Recognition ijcv2013

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Related work sec. is good for getting a brief summary of all the sampling techniques used for obtaining candidate bounding boxes in doing object detection and recognition;

The main idea seems to be to use hierarchical segmentation to generate region proposals at multiple scales;

basically a very over segmented image is created first and then similar regions are bounded up by boxes, then the segments in this image are merged with nearby similar regions to create larger bounding boxes and so on;

it tries to diversify the criteria used for this region merging to ensure that any single criterion does not dominate;

there are four main criteria used - colour, texture, size and shape;

size is needed to ensure that smaller regions are more likely to merge with each other rather than merge with a single larger region;

In the absence of this. a single large region may end up gobbling up all of the smaller regions around it and we will not be able to get bounding boxes at multiple scale at all locations in the image;