## Exercise 5

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#### Answer 5.1.1

The Felzenszwalb algorithm may not work well in a hierarchical procedure due to its heightened sensitivity to color and texture, resulting in problematic over segmentation and impeding the hierarchical process.

### • Answer 5.1.2

The filtering process involves three criteria: excluding identical rectangles, discarding small rectangles (pixel size < 2000), and eliminating distorted rectangles based on aspect ratio. Additionally, considering overlapping rectangles, as discussed in class, IoU and ABO methods can be applied for further refinement.

#### Answer 5.1.3

Selective search obtains rectangles by iteratively merging regions using the Felzenszwalb algorithm, incorporating similarity metrics (color, texture, size, fill), and a hierarchical merging process, resulting in final rectangular box proposals for object recognition.