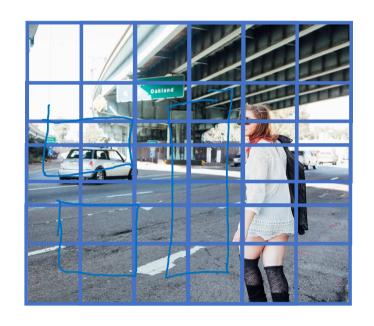
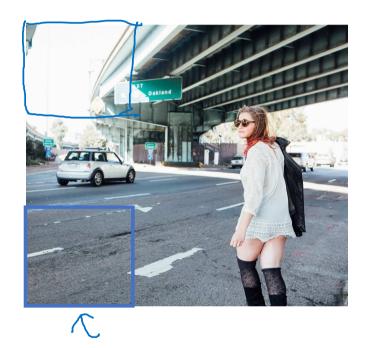


## Object Detection

## Region proposals (Optional)

## Region proposal: R-CNN







[Girshik et. al, 2013, Rich feature hierarchies for accurate object detection and semantic segmentation] Andrew Ng

## Faster algorithms

 $\rightarrow$  R-CNN:

Propose regions. Classify proposed regions one at a

time. Output label + bounding box.

Fast R-CNN:

Propose regions. Use convolution implementation

of sliding windows to classify all the proposed

regions.

Faster R-CNN: Use convolutional network to propose regions.

[Girshik et. al, 2013. Rich feature hierarchies for accurate object detection and semantic segmentation] [Girshik, 2015. Fast R-CNN]

[Ren et. al, 2016. Faster R-CNN: Towards real-time object detection with region proposal networks]

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