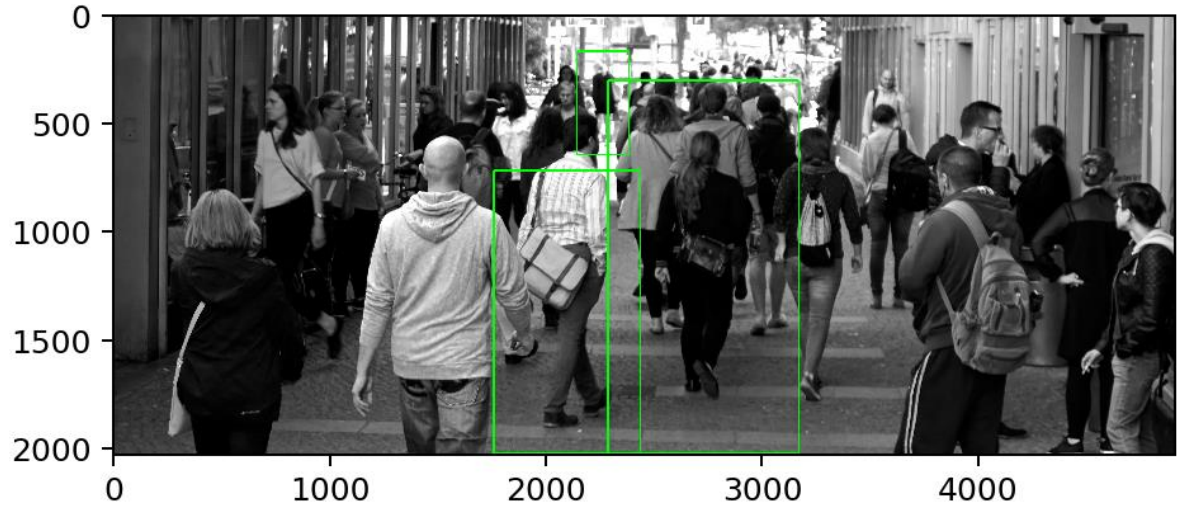
Task1

scale = 1.3
winStride=(4,4)
padding=(32,32)
hitThreshold=0.5

```
Detector execution time: 3.52 s
(3) (3) persons found
```




```
In [31]:
```

Task 2

- There are sets of images and for each image there are row in csv-file with the name of the image, some target bounding box, and code of class, which bounding box pointing to.
- Convolutional part of the network is defined under the “Building network part”. There are 7 convolution “blocks”, convolutional predictor layer that take their input from layers 4,5,6,7.
- The loss-function observes localization loss and confidence loss. Localization loss is a Smooth L1 loss between predicted box (l) and the ground truth box (g). As I can see from the formulae it is sums of smooth distinction between l and g with parameters of matching indicator, predicted box and ground truth box. Confidence loss measures how confident the network is of the *objectiveness* of the computed bounding box. Location loss measures how *far away* the network’s predicted bounding boxes are from the ground truth ones from the training set.
  The confidence loss are determined as sums of offset logarithms and indicators.
- Training datasets are such images that model uses to train and to see right answer of proposition and to correct its weights. Validation dataset is used to predict responses for the observations. Validation dataset is used for tuning hyper parameters of the trained model.

Task 3