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Learnable Invariant Region Detector

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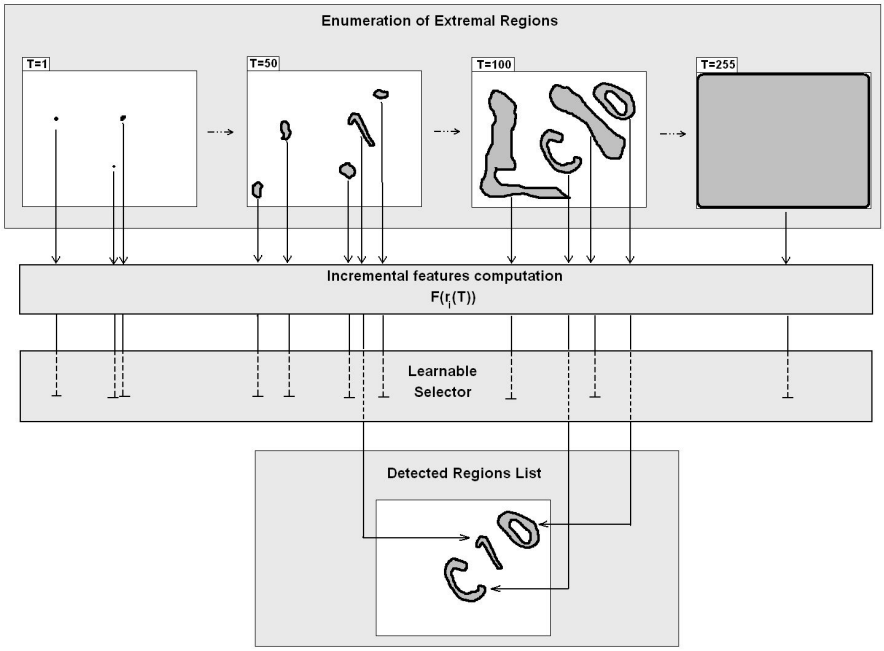
Growing interest in generalization of the object detection led us to proposal of the general learnable detector of arbitrary treshold-separable objects. We are able to learn (and detect) arbitrary treshold-separable category of shapes (characters, cells, etc.). Results in the problem of LP detection are presented below.

Principle



Detector properties

- learnable
- affine invariant
- insensitive to changes of illumination and background complexity

Results in the problem of LP detection

- accuracy (FN=1.6%, FP=6.4%)
- affine invariant (horizontal $\pm 45^o$, vertical $\pm 25^o$)

- short video (16 seconds, 1.2MBytes)
  http://cmp.felk.cvut.cz/~zimmerk/demos/short_lp_demo.avi
- long video (60 seconds, 10MBytes)
  http://cmp.felk.cvut.cz/~zimmerk/demos/short_lp_demo.avi
- test set (64 images+results)
  http://cmp.felk.cvut.cz/~zimmerk/lpd/results/index.html

Document available at http://cmp.felk.cvut.cz/~zimmerk/demos/msc_zimmerk.pdf