

* Tech

Color Lines

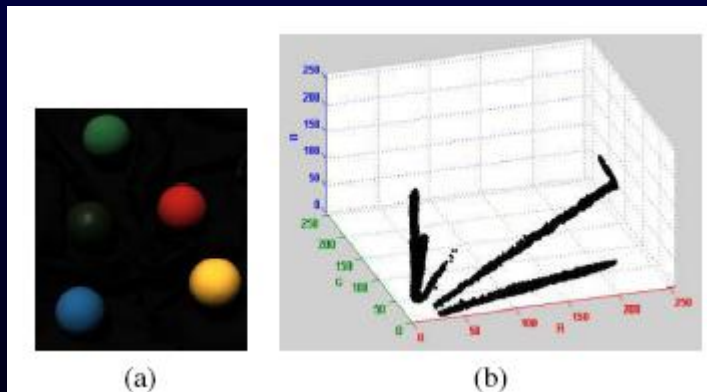
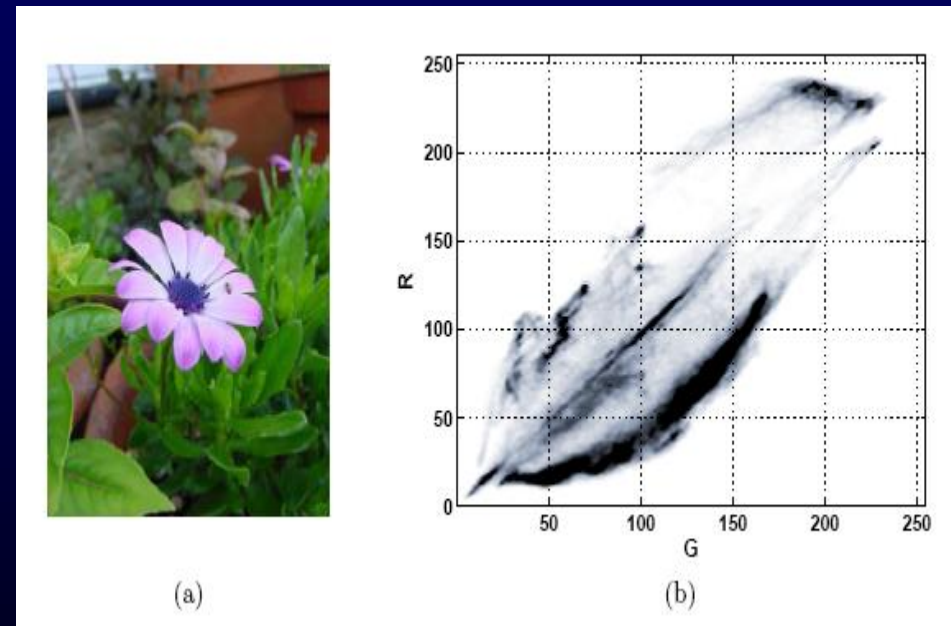
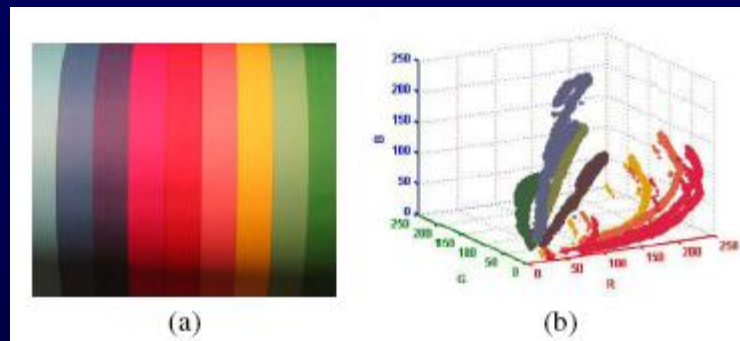
- Color lines: image specific color representation (CVPR 2004)
- Image specific feature similarities (ECCV 2006)

Hao Du

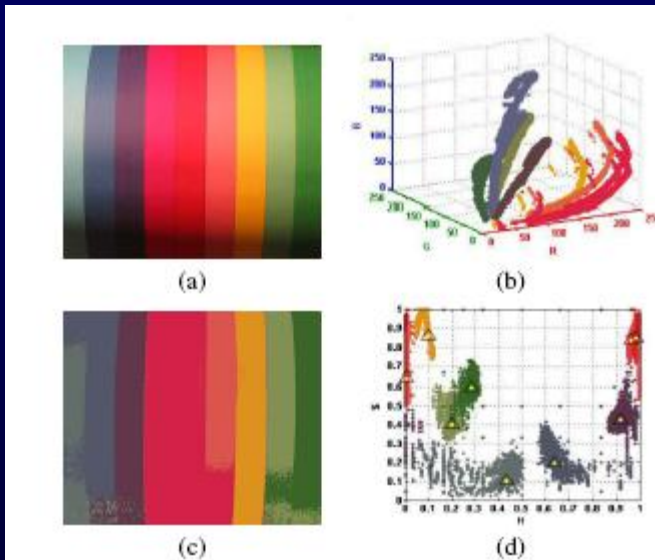
Email: duhao@fudan.edu.cn

Fudan University, P.R.China

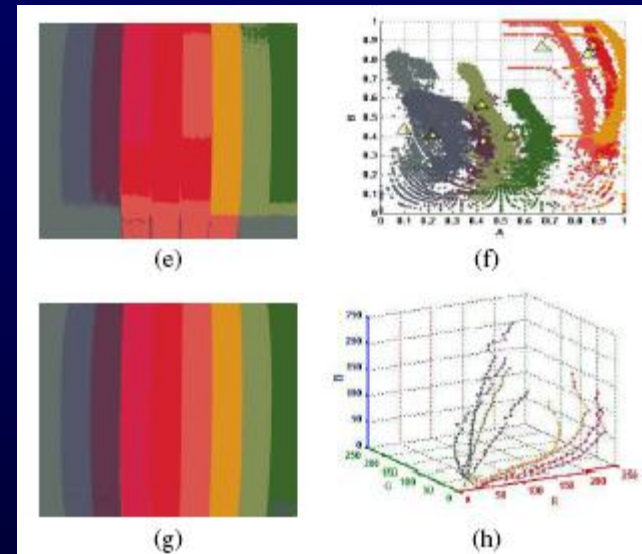
Color lines in Natural Image



Classification



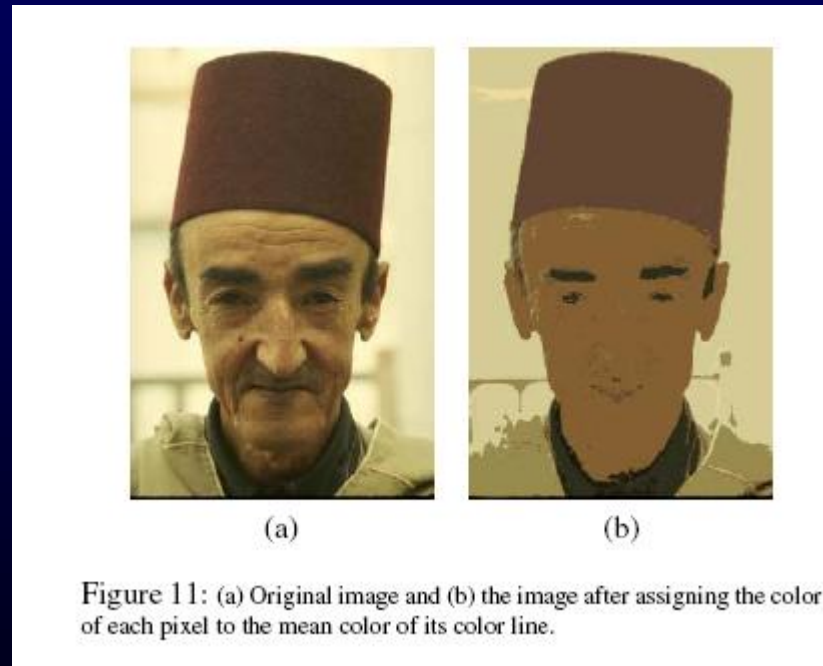
- Src
- HIV



- CIE
- Color Line

Color Editing

- ② Assigning the color of each pixel to the mean value of its color line



Color Editing

e Changing colors



Figure 12: (a) Original image (segmented into 3 color lines). (b) Decreasing the color saturation. (c) Increasing the color saturation. (d) Shifting the intensities making one object brighter and the others darker. (e) Stretching the lines. (f) Changing colors.

Color Editing

@ Restoring saturated colors

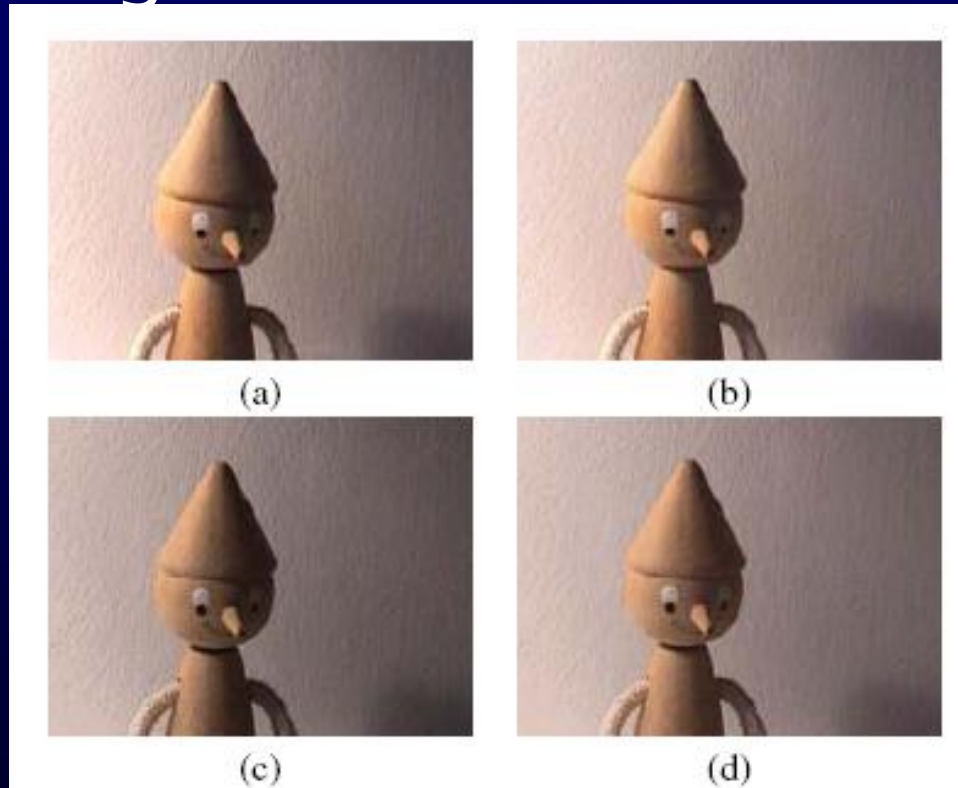
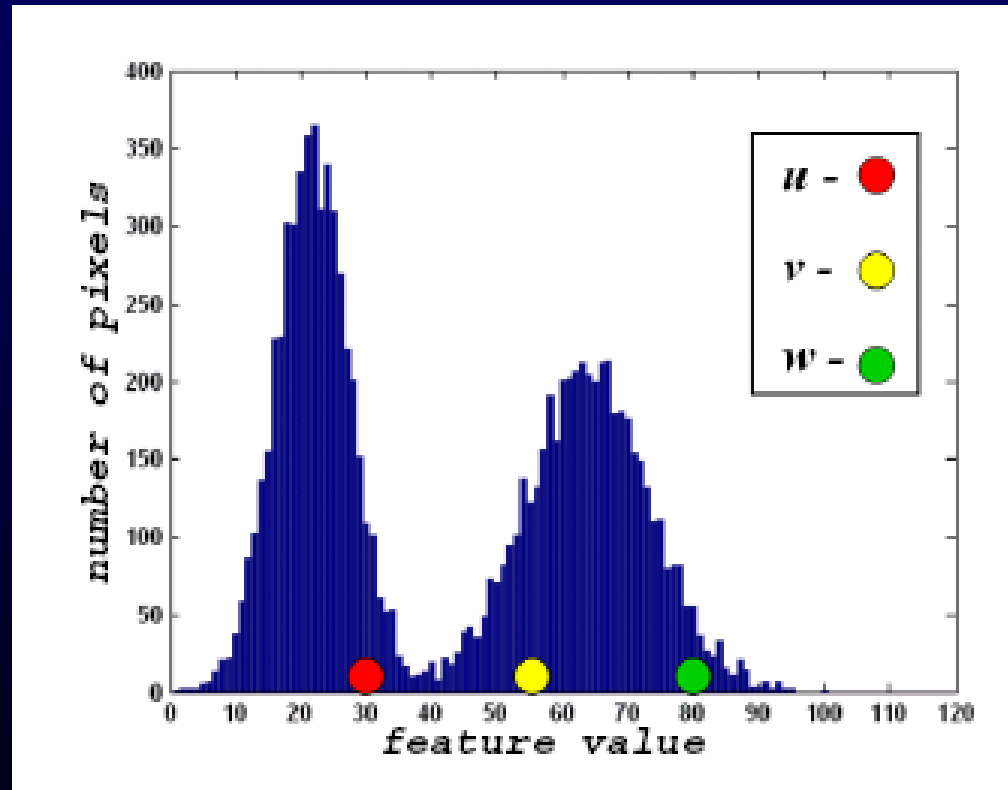


Figure 13: (a) Saturated image. (b) Using gamma correction. (c) Correcting saturated pixels and rescaling the colors. (d) Correcting saturated pixels and using gamma correction. It is possible to see that in figures (c) and (d) the saturated (yellowish) pixels in the left part of Pinocchio are corrected but the intensity range has increased from 255 to 305 and the image in (c) is too dark. The intensity in image (d) has been corrected using gamma correction.

Segmentation

② Bottleneck distance

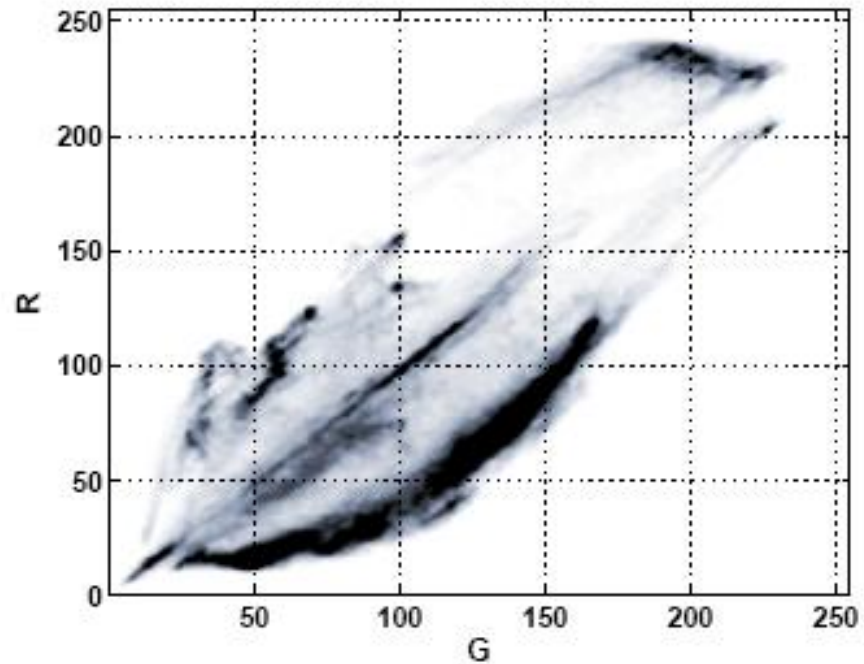


Segmentation

e A sample image



(a)



(b)

N-cut Segmentation

- Results using Euclidean-dis and bottleneck-dis

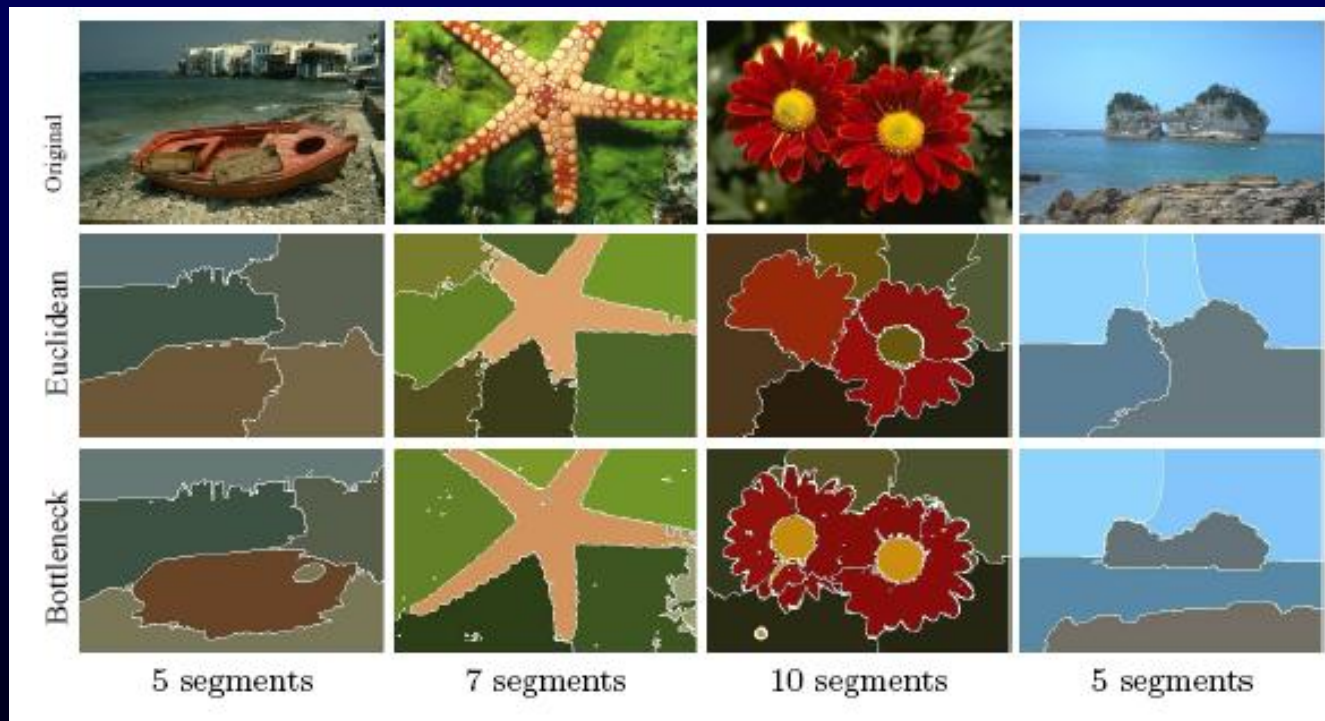
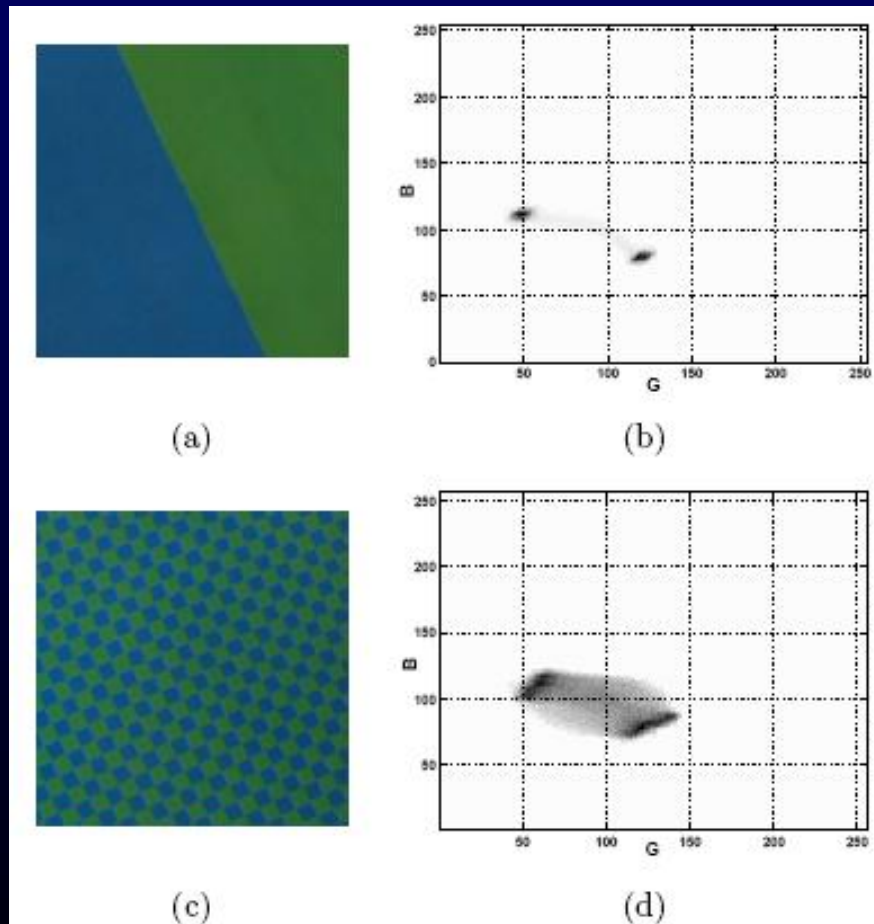


Fig. 7. Segmentation results of the *Ncut* algorithm using texture features in 15×15 neighbourhoods (each cluster is colored using its mean intensity) according to Euclidean affinities (second row) and to our bottleneck affinities (third row)

Bottleneck texture-dis

e Bottleneck Texture-dis



N-cut Segmentation

④ results based on Euc & Bottleneck texture features

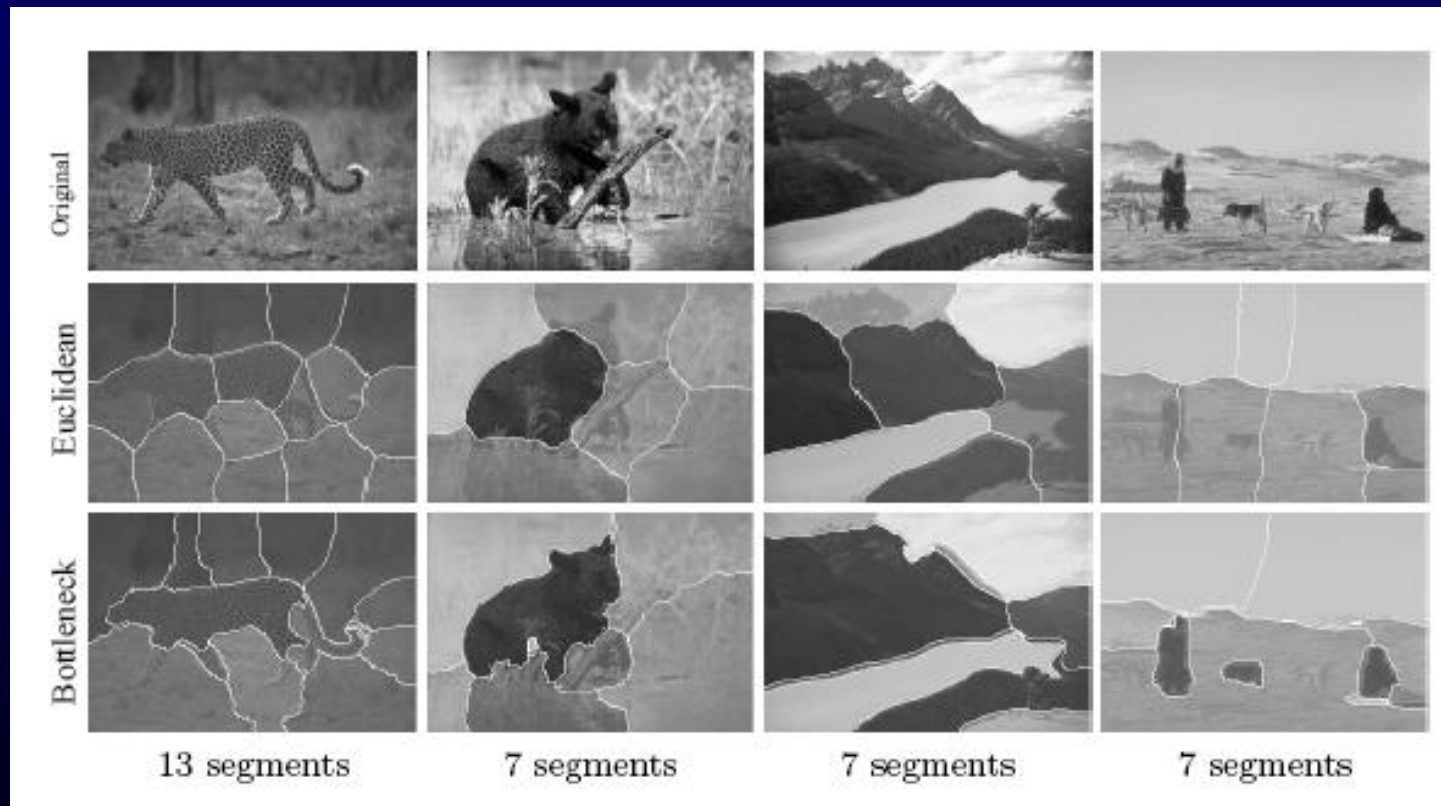


Fig. 8. Segmentation results of the *Ncut* algorithm using texture features in 15×15 neighbourhoods (each cluster is colored using its mean intensity) according to Euclidean affinities (second row) and to our bottleneck affinities (third row)