

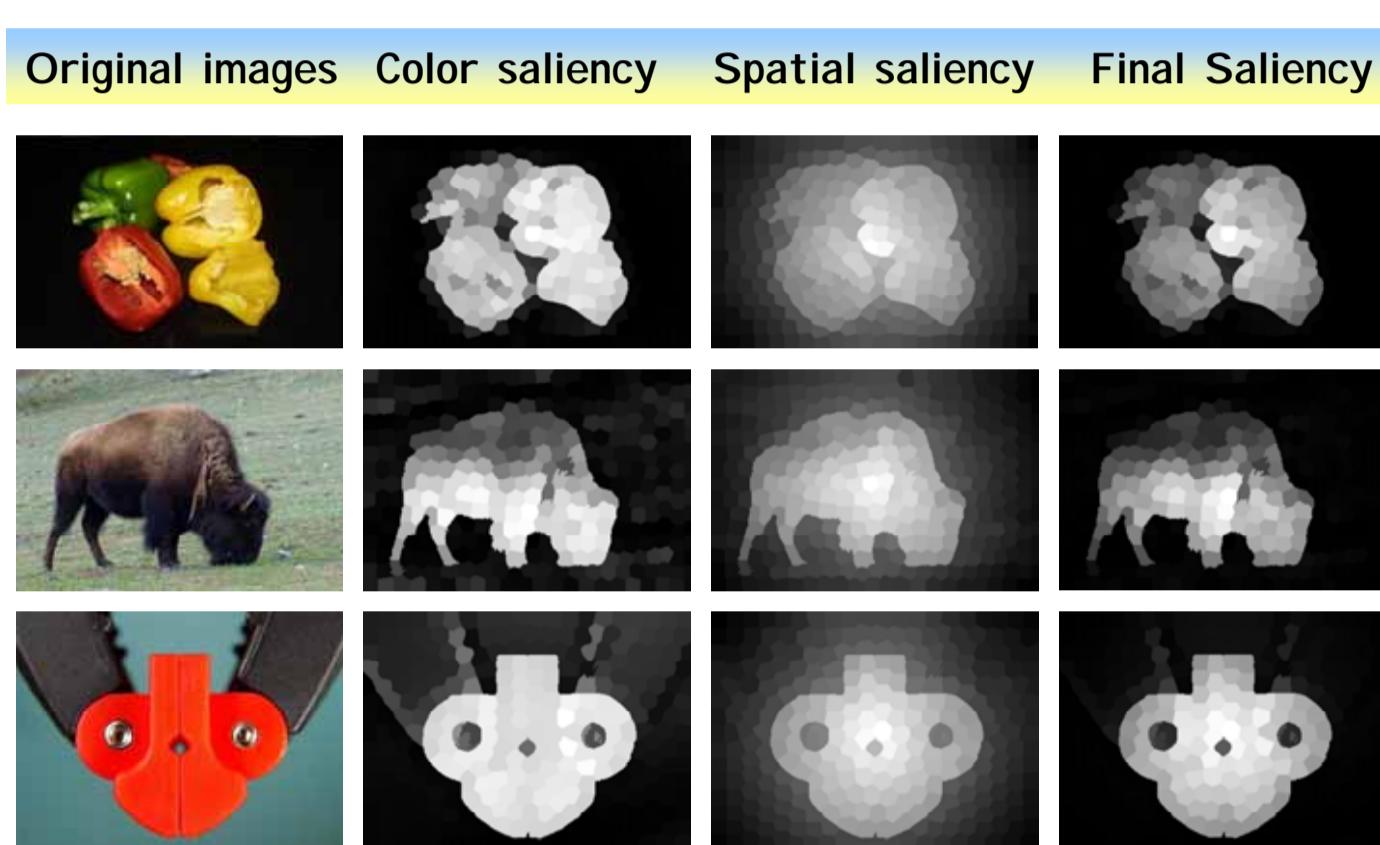
Efficient Saliency Detection Using Regional Color and Spatial Information

(Paper No. 37)

Shuhua Luo, Zhi Liu, Lina Li, Xuemei Zou, and Olivier Le Meur

MODEL

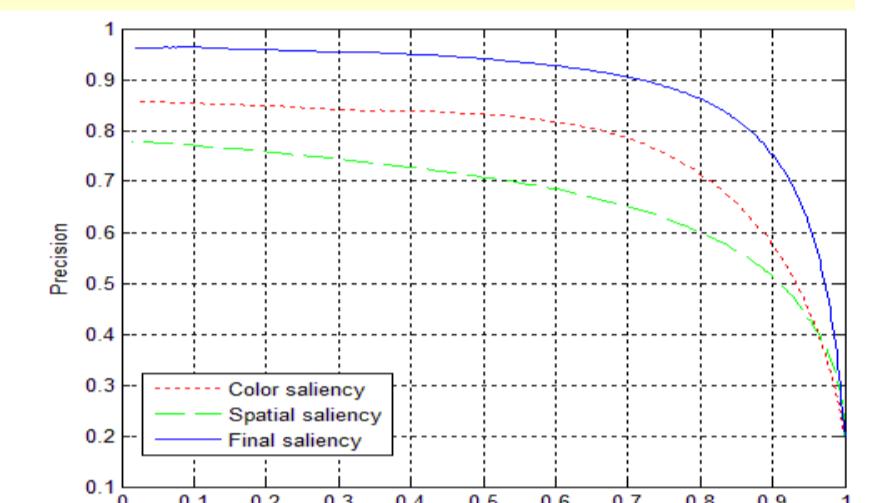
Pre-segmentation



$$C_i = \sum_{j=1, j \neq i}^n \exp\left(\frac{-D_{i,j}}{a_j}\right)$$

$$S_i^{Col} = 1 - C_i$$

$$Sal_i = S_i^{Col} \cdot S_i^{Spa}$$

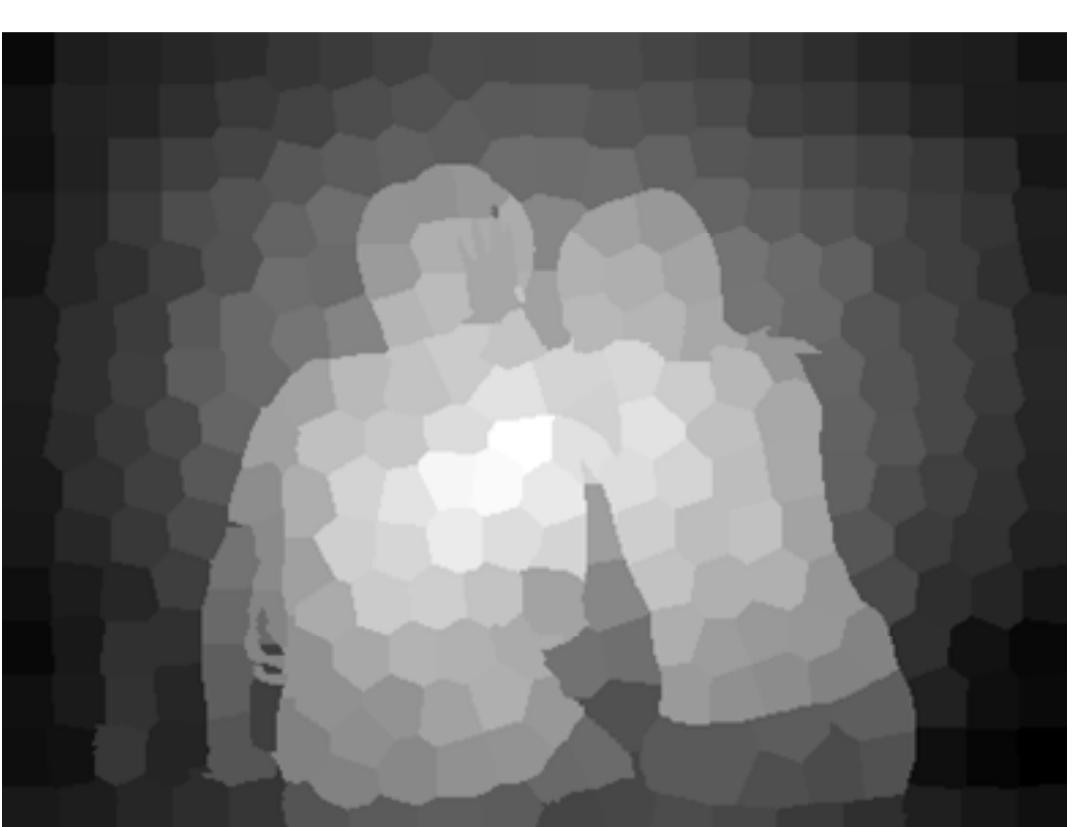


Color saliency

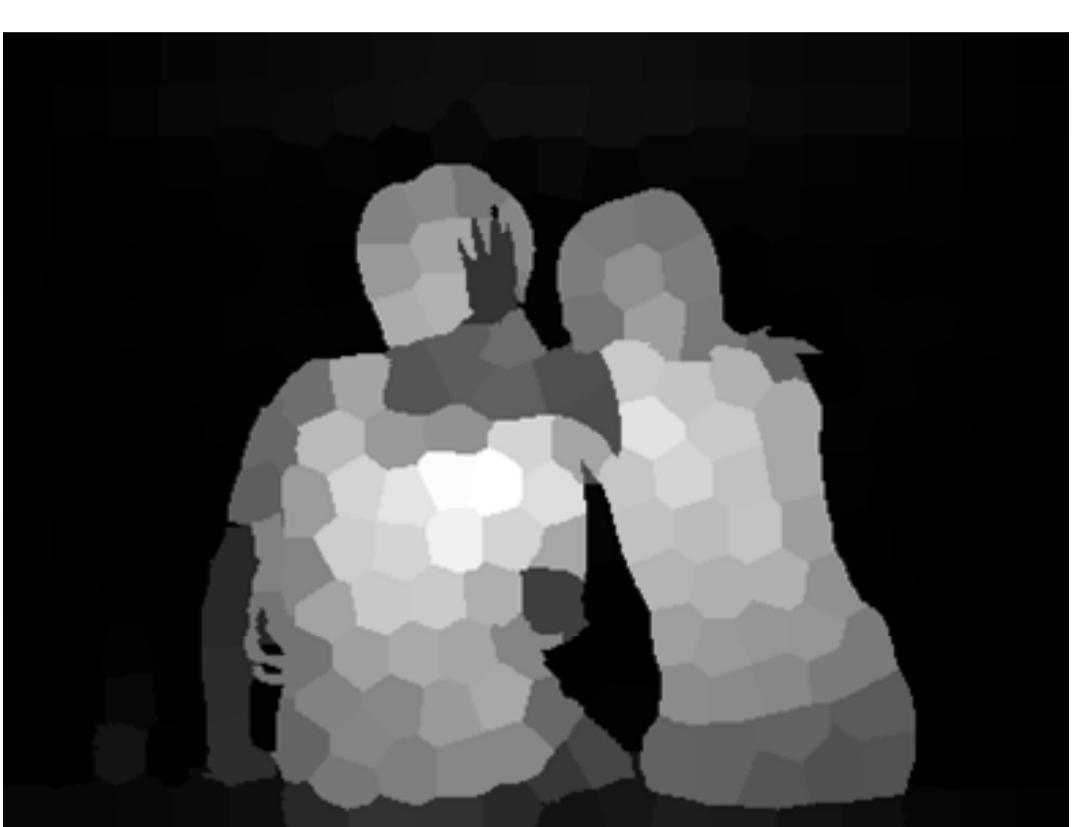


$$S_i^{Spa} = \frac{\sum_{j=1, j \neq i}^n \exp(1-d_j) \cdot w(i, j)}{\sum_{j=1, j \neq i}^n w(i, j)} + \exp(1-d_i)$$

Spatial saliency



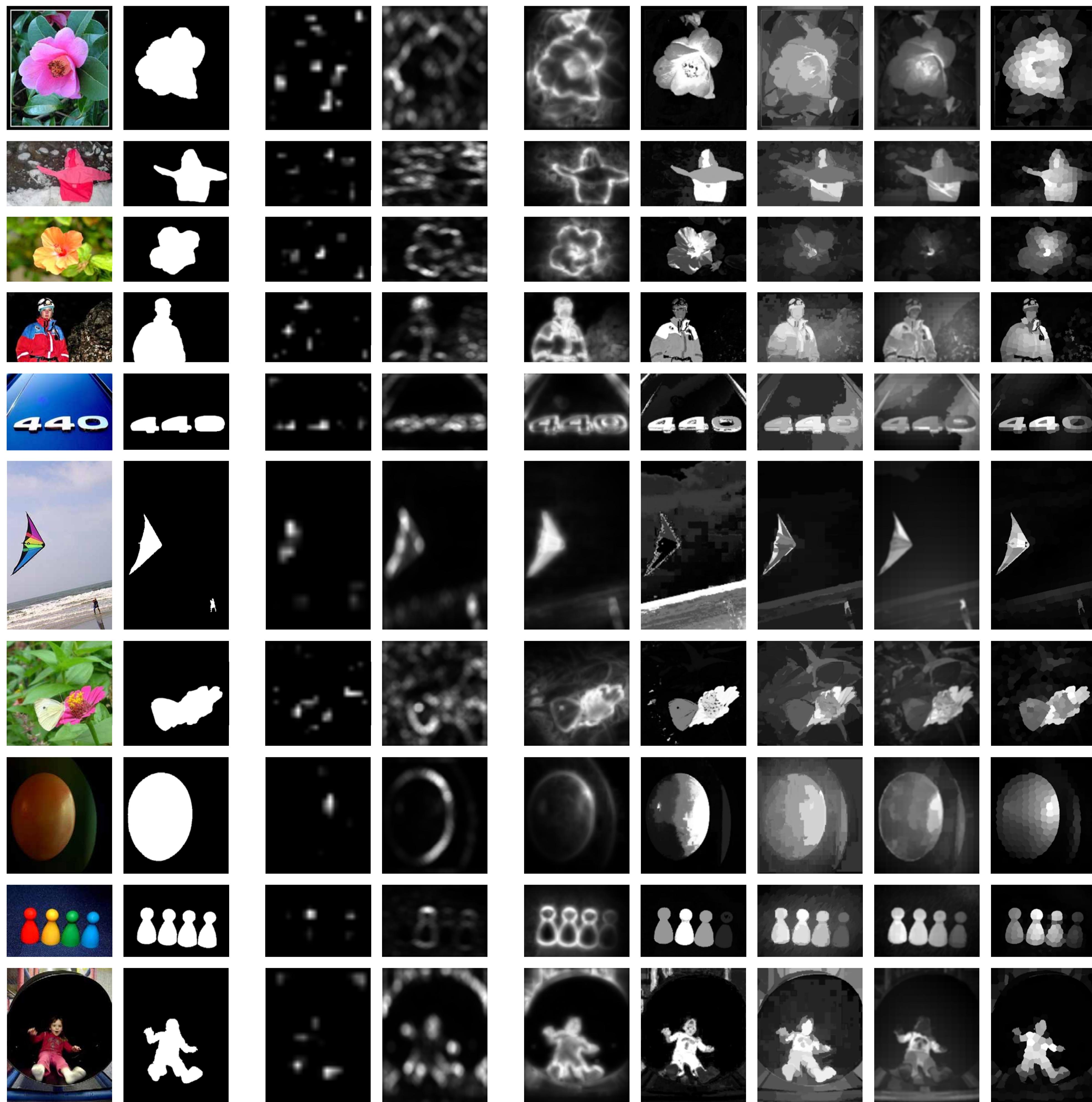
Final saliency



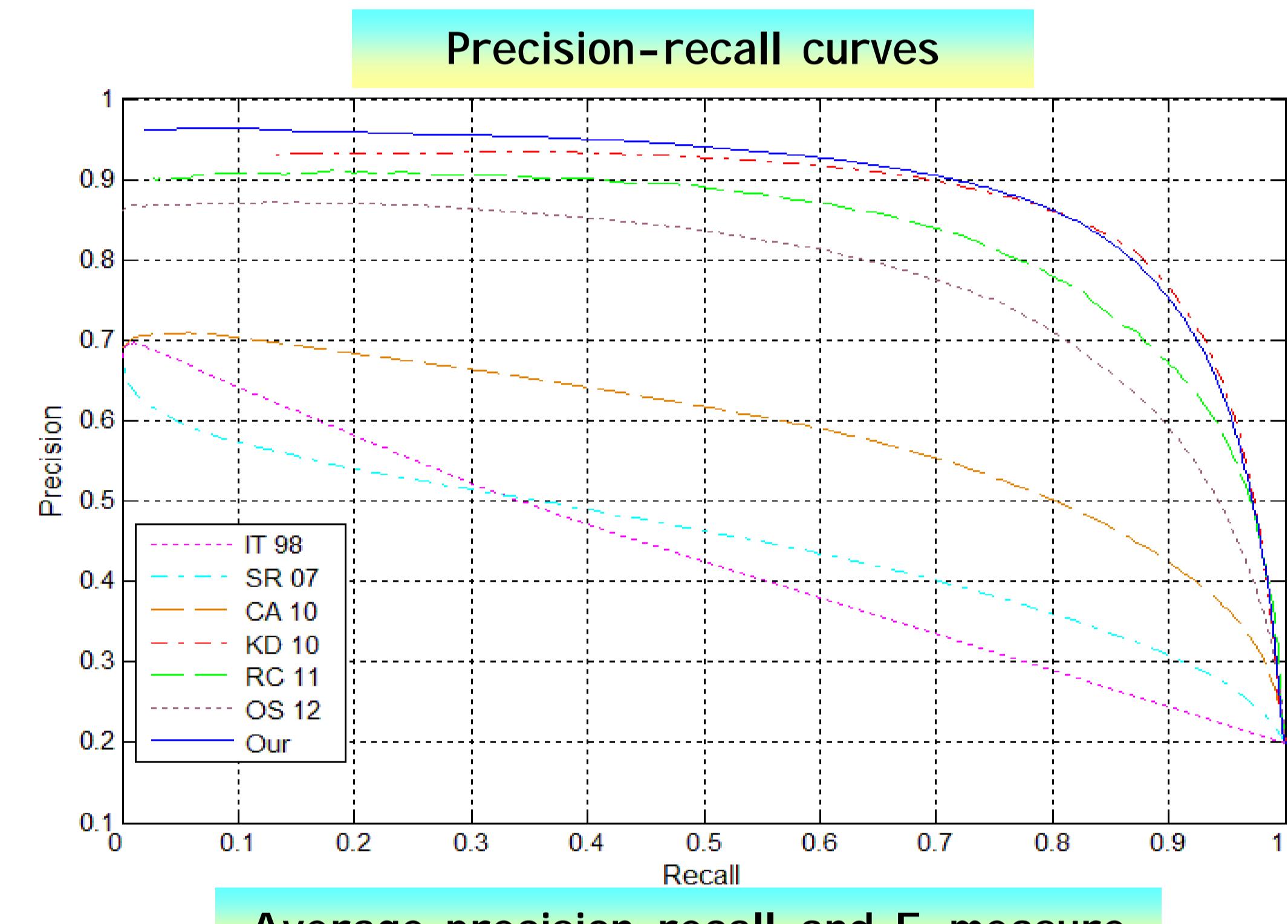
$$w(i, j) = \frac{1}{D_{i,j} + \varepsilon}$$

RESULTS

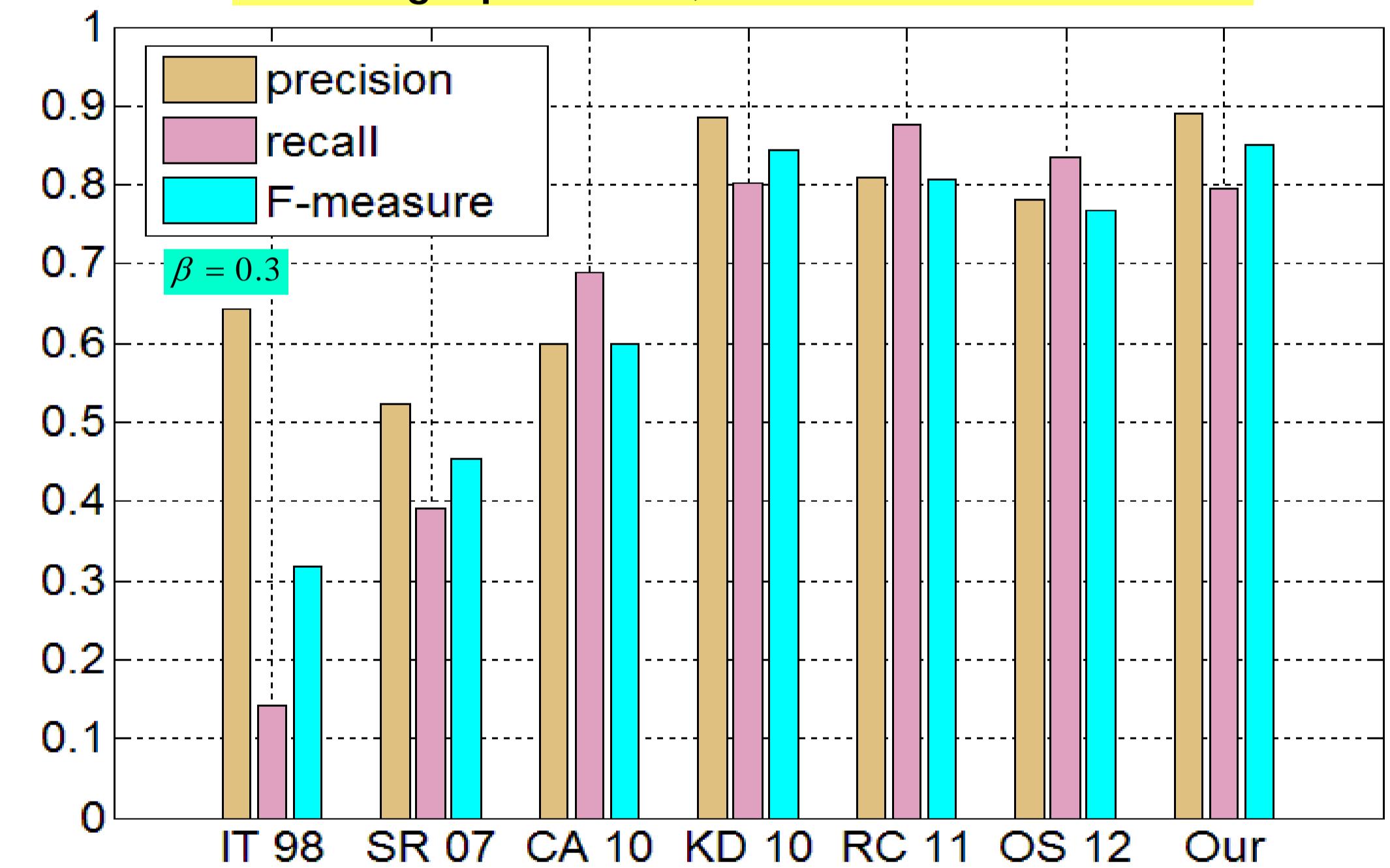
Spotlight saliency maps



Object-oriented saliency maps

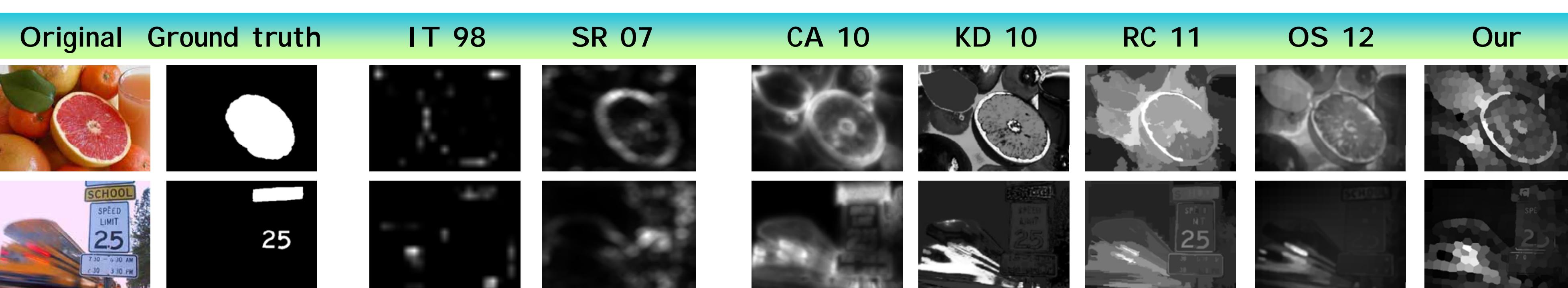
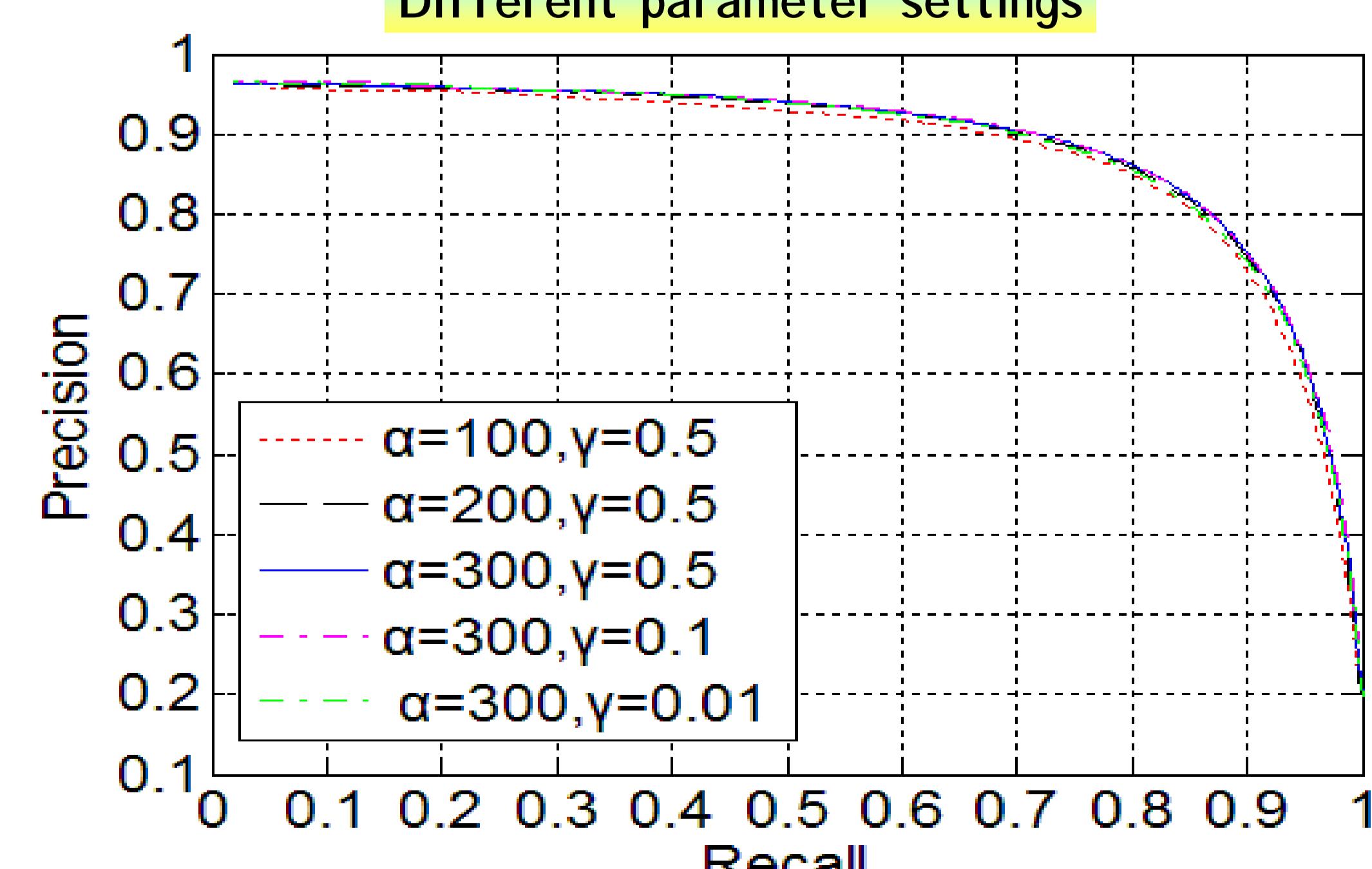


Average precision, recall and F-measure



Model	CA	KD	RC	OS	Our
Time (sec.)	29.541	37.894	0.144	7.069	1.290
Code	Matlab	Matlab	C++	Matlab	Matlab

Different parameter settings



*Two failure cases