

Checking the relation between number of patches, number of components and denoising results

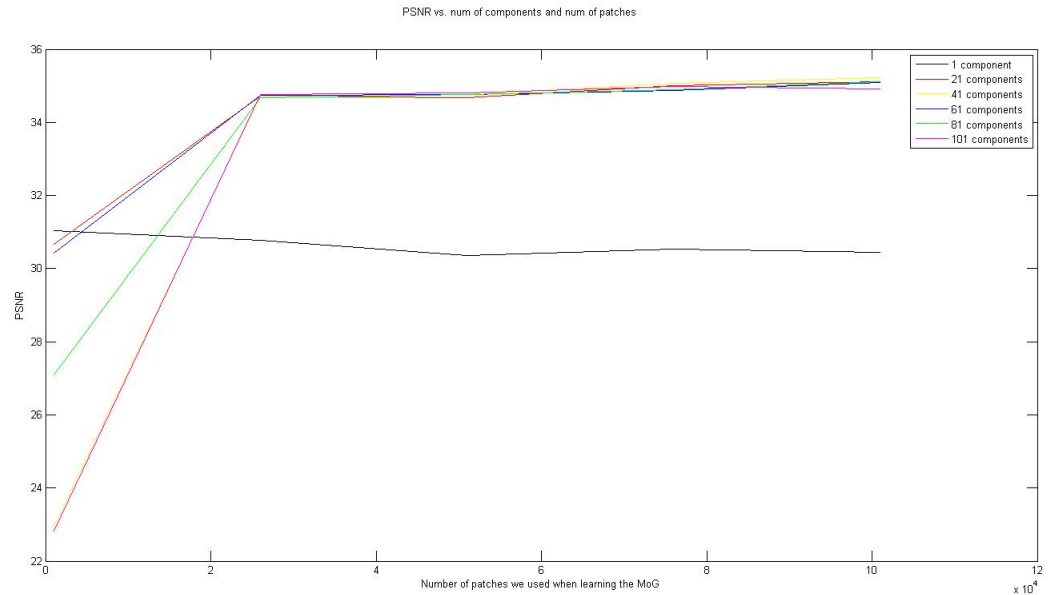
Haggai Maron & Tal Amir

June 29, 2013

In order to see what is the relation between the denoising ability of MMSE estimation using MoG prior on 8×8 patches, and the learning parameters [number of Gaussians in the mixture, number of patches we use when learning], we ran a test in which we vary this parameters and check the denoising on the same image. The patches were taken from the Berkeley segmentation database.

Results

The following results were obtained:



It is clear that when we learn only one component [i.e. a single Gaussian prior] the denoising results are not good and are not affected by the change in the number of patches. The interesting fact we can see in the graph above is that in case we have more then 20 components and more than $2.5 \cdot 10^4$ patches the results are practically the same.