Subset of MIT-CBCL Face Recognition Database

(10 subjects, 2 directions of illumination: $n = 20$; $p = 200 \times 200 = 40,000$)

Centroid

Eigenfaces for the MIT-CBCL Image Subset

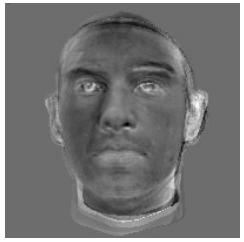
$(n = 20;\ p = 200 \times 200 = 40,000;\ \lambda_i \times 10^6)$


$\lambda_1 = 45$


$\lambda_2 = 14$


$\lambda_3 = 7.9$


$\lambda_4 = 6.4$

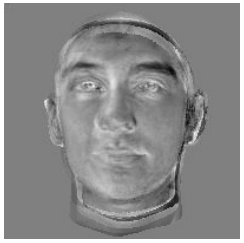

$\lambda_5 = 4.0$


$\lambda_6 = 3.3$


$\lambda_7 = 2.7$

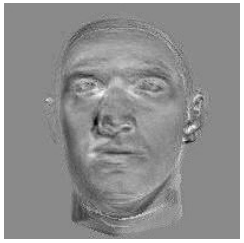

$\lambda_8 = 2.2$


$\lambda_9 = 1.5$

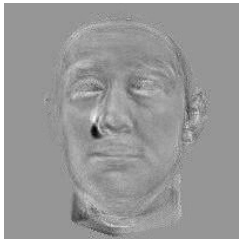

$\lambda_{10} = 1.3$

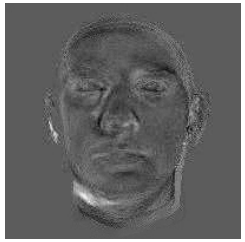

$\lambda_{11} = 0.2$


$\lambda_{12} = 0.09$

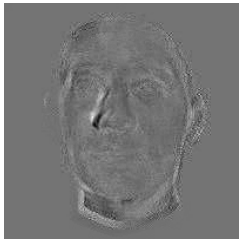

$\lambda_{13} = 0.03$

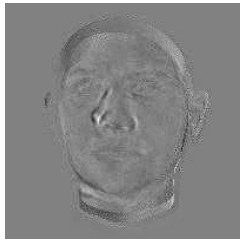

$\lambda_{14} = 0.02$


$\lambda_{15} = 0.02$


$\lambda_{16} = 0.006$


$\lambda_{17} = 0.004$

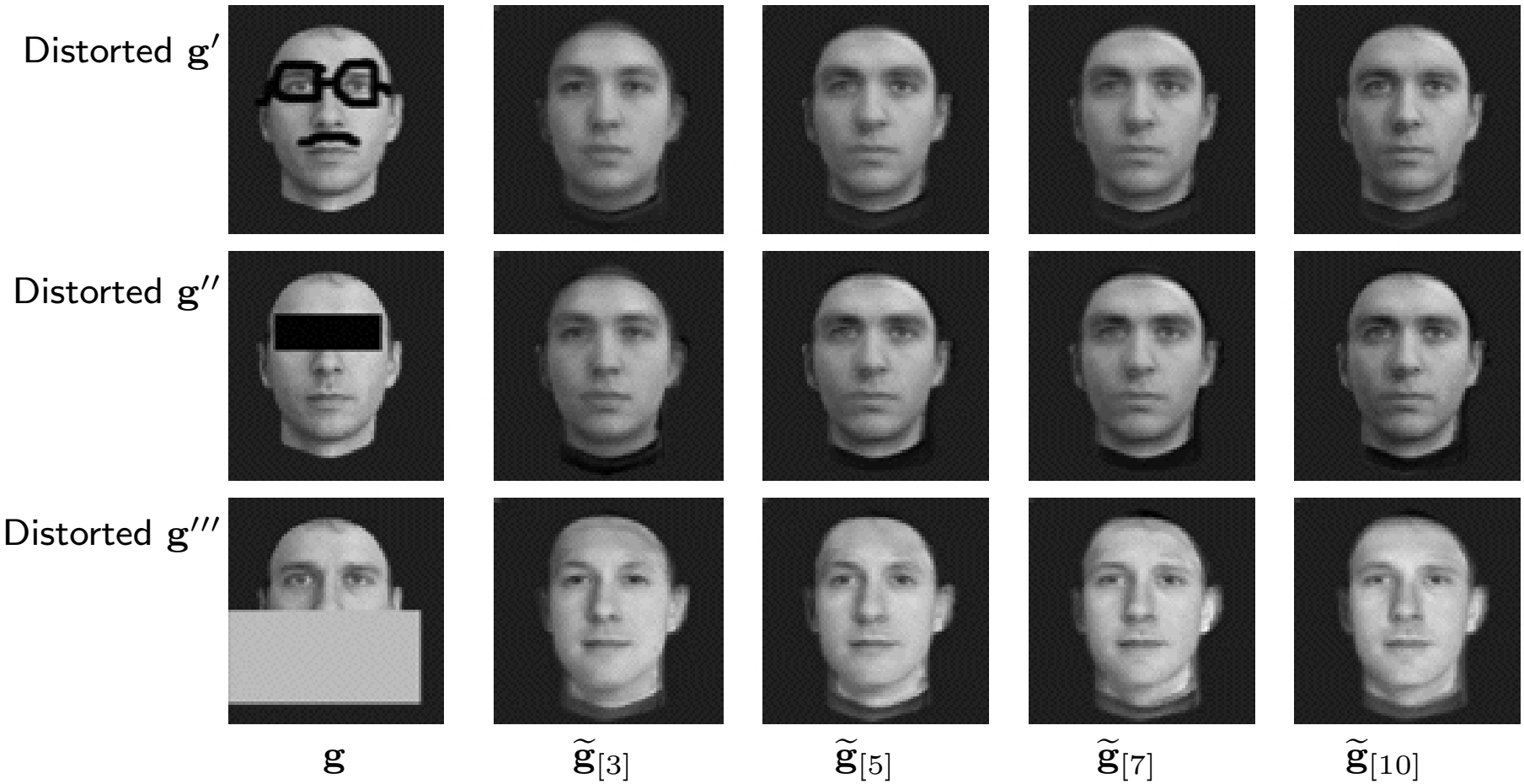

$\lambda_{18} = 0.004$


$\lambda_{19} = 0.003$


$\lambda_{20} = 0$


Centroid

Eigenfaces in Image Representation and Restoration



Under large distortions, the projection onto L_m cannot restore the original image...