

Abstract

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Eigenfaces Vs. Fisherfaces VS. ICA for face recognition A comparative study

Face recognition issue gained more interest recently due to its various applications and the demand of high security. Some researches with contradicting results were published concerning this issue. This paper compared three popular face recognition projection methods: (eigenfaces), (fisherfaces), and ICA. We also applied some data transformations: (discrete wavelet and cosine transforms) preceding methods to see their effect. Most researches based their results on the FERET database. AR and AT & T databases were used here to see if the same results apply. We also compared the results of two sets of experiments with the second set using half the training images used in the first to observe if the results may change. Overall conclusion is it canpsilat be stated that specific algorithm outperforms others, though ICA and eigenfaces respectively showed better results than fisherfaces for both experiments sets and both databases. Preceding algorithms with transformations yield better results for some algorithms.