International Journal of Computer Science and Engineering (IJCSE)
ISSN(P): 2278-9960; ISSN(E): 2278-9979
Vol. 3, Issue 4, July 2014, 89- 98

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

EXPERIMENTAL ANALYSIS OF DIFFERENT DISTANCE MEASURES FOR FACE RECOGNITION

MAHANANDA D. MALKAUTHEKAR

Assistant Professor, Department of M.C.A., Government Engineering College, Karad, Maharashtra, India

ABSTRACT

In this paper the three different types of distance measures are compared with respect to the recognition performance of Principal Component Analysis (PCA) algorithm used for the feature extraction of facial images. Distance metric or matching criteria is the main tool for retrieving similar images from large image databases for the above category of search. Three distance measures used are Euclidean distance, Manhattan distance and Mahalanobis distance. In content-based image retrieval systems, Manhattan distance and Euclidean distance are typically used to determine similarities between a pair of image. Here facial images of three subjects with different expression and angles are used for classification. Experimental results are compared and the results show that the Mahalanobis distance performs better than the Manhattan Distance and Euclidean distance for the changed angle face images.

KEYWORDS: PCA, Face Recognition, Feature Extraction, Covariance Matrix, Distance Measures, Eigenvectors, FERET Database, Image Classification