Abstract

This paper studies recognition of human faces using wavelet transform, Eigen space mapping and Linear Discriminant Analysis/Fisher Analysis (LDA). Histogram Equalization is chosen as a preprocessing step to reduce the effect of variation in illumination on human faces. The preprocessed faces are then subjected to second level wavelet (Haar) decomposition for further calculation. Feature extraction is performed using Eigen space mapping followed by LDA on the second level approximation matrix (LL sub band). Manhattan distance is used as a classifier. The proposed scheme is tested on illumination and expression variant different face databases for performance evaluation.

References

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- Yale Face Dataset, Available (www.cvc.yale.edu).
- JAFFE Face Dataset, Available (http://www.kasrl.org/jaffe.html)

Index Terms

Computer Science  Image Processing

Keywords

Histogram Equalization  Wavelet Transform  Principle Component Analysis (PCA)
Linear Discriminant Analysis (LDA)/Fisher Analysis