Abstract

With the advancement of communication and security technologies, it has become crucial to have robustness of embedded biometric systems. This paper presents the realization of such
technologies which demands reliable and error-free biometric identity verification systems. High dimensional patterns are not permitted due to eigen-decomposition in high dimensional feature space and degeneration of scattering matrices in small size sample. Generalization, dimensionality reduction and maximizing the margins are controlled by minimizing weight vectors. Results show good pattern by multimodal biometric system proposed in this paper. This paper is aimed at investigating a biometric identity system using Support Vector Machines(SVMs) and Linear Discriminant Analysis(LDA) with MFCCs and implementing such system in real-time using SignalWAVE.

References

- Alexander J. Faaborg, Using Neural Networks to Create an Adaptive Character Recognition System, March 2002
neric/charrecnn.html
- S. Furui, “An overview of speaker recognition technology”, ESCA Workshop on
- S. Balakrishnama, A. Ganapathiraju, Linear Discriminant Analysis - A Brief Tutorial, Institute for Signal and Information Processing, Department of Electrical and Computer Engineering, Mississippi State University, page 2-3.

**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Support Vector Machines (SVMs)  
Linear Discrimenent Analysis  
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FPGA

Biometric System