

A NOVEL MULTIMODAL BIOMETRIC SCHEME FOR PERSONAL AUTHENTICATION

P. ARUNA KUMARI¹ & G. JAYA SUMA²

¹Department of Computer Science and Engineering, JNTUK University College of Engineering, Andhra Pradesh, India

²Department of Information Technology, JNTUK University College of Engineering, Andhra Pradesh, India

ABSTRACT

Biometrics has long been touted as a powerful tool for solving identification and authentication issues for immigration and customs, forensics, physical and computer security. In real world situations, unimodal biometric systems repeatedly face significant restrictions due to noise in sensed data, spoof attacks, lack of distinctiveness, data quality, restricted degree of freedom, non-universality, and other factors. Multimodal biometric systems are used to increase the performance as well as better security that may not be achievable by using unimodal biometrics. Gabor filter, Gabor filter bank, Gabor transform and Gabor wavelet are widely applied to image processing, computer vision and pattern recognition. This Gabor function can provide accurate time-frequency location. In this paper we proposed a theoretical Novel approach for multimodal biometric system for personal authentication in which features are extracted from different biometric traits like – palm print, iris, and finger print. The features extracted using Gabor filters from multiple biometrics are combined at feature level and to perform authentication, a classifier SVM is used to classify the claimed identity as genuine or imposter.

KEYWORDS: Feature Level Fusion, Gabor Filter, Multibiometrics, Support Vector Machines