Abstract

Human beings have unique and distinct characteristics which are helpful to distinguish one human being from another and thus acts as form of identification. Biometric allows us to identify individuals based on some anatomical structures of body such as fingerprints, face, hand-geometry ear and iris etc. Addition to this soft biometric traits such as gender, age and eye color, voice, accent etc. soft biometric traits help to support traditional biometrics by adding some extra meaningful information. In this context, gender identification becomes a significant task to improve the biometric systems[2]. Gender identification plays a vital role in many applications like human computer interaction, content based indexing, decision making, searching, surveillance and demographic studies. In this paper, we present multi-resolution features based method for gender identification using fingerprints. Our method involves three main steps preprocessing, feature extraction and classification. To do preprocessing we employed contrast limited adaptive histogram equalization, discrete wavelet transform for multi-resolution based feature extraction and classification using feed forward back propagation neural network. In our experiments, we have achieved progressive results on dataset of 750
fingerprints.

References


Index Terms

Computer Science
Automated Systems
Keywords

Discrete Wavelet Transform, fingerprints, Automatic Gender Identification, Back Propagation Neural Networks