

## **DWT-Neural Network based Gender Classification**

Pragya Bharti  
*M. Tech. Scholar, Computer Science  
Department  
Rajasthan College of Engg. for Women,  
Jaipur, India  
[er.pragya002@gmail.com](mailto:er.pragya002@gmail.com)*

Dr. C. S. Lamba  
*Computer Science  
Department  
Rajasthan College of Engg. for Women,  
Jaipur, India  
[lamba5@rediffmail.com](mailto:lamba5@rediffmail.com)*

*Abstract* – Fingerprint recognition plays an important role in the biometric identification of humans. Fingerprint recognition has many applications. It has been used for decades in civilian applications, in criminal investigation, and other applications. In this paper, recognition of male-female fingerprints using neural network (NN) is considered. Using Discrete Wavelet Transform (DWT) the directional images of fingerprints are obtained. The DWT achieves effective low frequency filtering, reducing the noise effects in male-female fingerprint images. Then the feed-forward back-propagation neural network is applied for male-female fingerprint recognition. The fingerprint database is constructed and used to train a neural network. Simulation of the male-female fingerprint recognition system is carried out using MATLAB. The neural network is used to train and identify fingerprints.

*Keywords* – Discrete Wavelet Transform, Feed-Forward Back-Propagation Neural Network.