

FINGERPRINT RECOGNITION SYSTEM USING SUPPORT VECTOR MACHINE AND NEURAL NETWORK

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ABSTRACT

Verification is reliable personal identification method which play a very important role in different applications. The main objective in this paper, the geometrical shapes are used to extract features based on minutiae point. The features have been used as a set of descriptors for the fingerprint data and it is too complex to reconstruct the original fingerprint image using the extracted data. Back propagation Neural Networks and Support Vector Machine were used for Classification and recognition in the purposed system. It is found that the process of preprocessing steps necessary for accurate minutiae extraction including median filter, binarization , and thinning. Also the method of constructing geometric shapes has great effect on producing good results in the recognition rate. The recognition rate of the Neural Network is more accurate than Support Vector Machine.

KEYWORDS: Fingerprint Recognition, Support Vector Machine, Back propagation Neural Network, Minutiae Extraction