In this paper, we have applied a new feature extraction technique to calculate only twelve directional feature inputs depending upon the gradients. Features extracted from handwritten characters are directions of pixels with respect to their neighboring pixels. These inputs are given to a back propagation neural network with one hidden layer and one output layer. An analysis has been also carried out to compare the recognition accuracy, training time and classification time of newly developed feature extraction technique with some of the existing techniques. Experimental result shows that the new approach provides better results as compared to other techniques in terms of recognition accuracy, training time and classification time. The work carried out in this paper is able to recognize all type of handwritten characters even special characters in any language.

Reference
Character Recognition" IEEE Transactions on Pattern Analysis and Machine Intelligence, Volume 29, Issue 8, Aug. 2007 Page(s) 1465-1469.


**Index Terms**

Computer Science  
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**Key words**

Neural Network  
Feature Extraction Technique  
Recognition Accuracy  
Backpropagation neural network