Abstract

The offline handwritten character recognition is the frontier area of research from last few decades in pattern recognition. It is difficult to recognize handwritten characters as compared to printed characters because of the varying writing styles of individuals. The massive work has been done in languages like Devnagri and Chinese character recognition. The area of Gurmukhi character recognition is even though not new but the problem lies when it comes to look alike and unique characters where the system lacks. In this proposed work, 35 different
character samples are used for recognition. The samples have been taken on a plain paper in an isolated manner. After the pre-processing of particular character feature extraction technique is applied. The technique used for feature extraction is Gabor filter. Then ANN is applied for character recognition and if ANN fails to recognize, then character is recognized with the help of PSONN. This improves the overall efficiency of the character recognition system. By training the classifier with whole dataset we obtained 100% accuracy for the given samples.

References


**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Optical Character Recognition  
Particle Swarm Optimization  
Handwriting Recognition  

Gurmukhi Characters

Artificial Neural Network

Handwritten Character Recognition.