Abstract

The offline character recognition is very useful software in the field of research. Authoritative field of research has made by character recognition due to its need in various fields of research as in banks, post offices to fulfill all recognition requirements. This paper is an exploration on the different scripts including Mathematical digits, Hindi consonants and vowels, Gurumukhi characters as well as numerals. Different handwritten samples of all these language scripts are taken from different persons in a good environment. First of all pre-processing including
different operations for the reduction of noise is operated. The pre-processed documents are
then segmented for the feature extraction. In this technique, different features like lines, corners
e etc. are to be extracted. Number of hidden layers taken are 15. Then neural network is trained
for the testing of all these handwritten samples. Out of 100% samples, 90% are used for
training, 5% are for testing and the remaining of the samples are used for validation.
Comparison of recognition rates achieved on different scripts is accessible. Out of all samples
taken, highest accuracy is achieved on the Gurumukhi script which is 99. 9%.

References

- R Plamondon and S. N. Srihari, “Online and Offline Handwritten Character
Recognition: A Comprehensive Survey,” IEEE Transactions on Pattern Analysis and
- Sutha, J.; Ramaraj, N., “Neural Network Based Offline Tamil Handwritten
Character Recognition Systems,” Conference on Computational Intelligence and
- P M. Kamble and R S. Hagadi, “Handwritten Marathi Character Recognition using
- S. G Mallat, “A Theory of Multiresolution Signal Decomposition of Wavelet
Representation,” IEEE Transaction on Pattern Analysis and Machine Intelligence, vol. 11,
- R Verma and R Kaur “An Efficient Technique for Character Recognition using
Neural Network and Surf Feature Extraction,” International Journal of Computer Science
- K. V. Kale, P. D. Deshmukh, S. V. Chavan, M. M. Kazi, and Y. S. Rode,
“Zernike Moment Feature Extraction for Handwritten Devanagari (Marathi) Compound
Character Recognition,” International Journal of Advance Research in Artificial Intelligence,
- 10. G Sinha, R Rani, and R Dhir, “Handwritten Gurumukhi Character Recognition
using K-NN and SVM classifier,” International Journal Of Advance Research in Computer
- A Roy and N. R. Manna, “Handwritten Character Recognition with Feedback
Neural Network,” International Journal of Computer Science & Engineering Technology
(IJCSET), ISSN : 2229-3345, Vol. 5 No. 01 Jan 2014.
Neural Network,” Computer Applications And industrial Electronics (ICCAIE), 7th
international conference IEEE, 2011.

**Index Terms**

| Computer Science | Networks |

**Keywords**

Handwritten Recognition  Pattern Recognition  Neural Network And Feature Extraction