Robust Printed Devanagari Document Recognition using Hybrid Approach of Shirorekha Chopping, Fuzzy Directional Features and Support Vector Machine

International Journal of Computer Applications
© 2012 by IJCA Journal

Volume 57 - Number 1
Year of Publication: 2012

Authors:
Nitin Mishra
Ankur Agrawal

10.5120/9076-8727

Abstract

This paper presents a novel methodology for recognizing machine printed Devanagari script document. Shirorekha Chopping based preprocessing is chosen to enable the segmentation of printed text into various characters. Fuzzy Directional Features have shown improvement over commonly used Directional features. A set of 8 directional Fuzzy Directional Features (FDF) for each character is extracted and classified to the appropriate character class. Radial Basis function (RBF) kernel based Support Vector Machines (SVM) model is used for training the various multi font characters and testing the Devanagari document to be recognized. Experiments are conducted for the multi font Devanagari document recognition. The recognition rate of the proposed OCR system with the image document of Devnagari Script has been found to be 97.9% for two fonts Mangal and Krutidev.

References

Robust Printed Devanagari Document Recognition using Hybrid Approach of Shirorekha Chopping, Fuzzy Directional Features and Support Vector Machine


Index Terms

Computer Science
Pattern Recognition

Keywords

Devanagari  OCR  Shirorekha Chopping  Fuzzy Directional Features  Support Vector Machine