Comparative Study of Segmentation and Recognition Methods for Handwritten Devnagari Script

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Abstract

Script recognition systems for various languages have gained importance in recent decades and are the area of deep interest for many researchers. English Character Recognition (CR) has been extensively studied in the last half century and progressed to a level, sufficient to produce technology driven applications. But same is not the case for Indian languages which are complicated in terms of structure and computations. Indian scripts present great challenges to an OCR designer due to the large number of letters in the alphabet, the sophisticated ways in which they combine, and the complicated graphemes they result in. Devnagari (Hindi) being the national language of India, spoken by more than 500 million people, should be given special attention so that document retrieval and analysis of rich ancient and modern Indian literature can be effectively done. This article is intended to serve as a guide and update for the readers, working in the Handwritten Devanagari Script Recognition (HDSR) area. An overview of HDSR systems is presented and the available HDSR techniques are reviewed. The current status of HDSR is discussed and directions for future researches are suggested.
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**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Handwritten Devnagari Character Recognition  
Preprocessing  
Segmentation  
Feature Extraction  
Recognition  
Classification.