

A novel clustering based fuzzy approach for character segmentation in handwritten odia scripts

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Abstract: Character Segmentation is a pivotal decisive component in Natural Language Processing that seeks to dissolve an image of an array of characters into sub-images of distinct symbols. Literature survey reveals that very little work has been reported in character segmentation of handwritten Odia documents. In this paper, a novel clustering based Fuzzy schema is presented for segmentation of characters in unconstrained Odia language. The simulation based experiments of proposed methodology are conducted on transcribed Odia scripts. It is observed that the segmentation performance in terms of Success Rate and F-Measure parameters is superior to the other existing state of the art segmentation techniques.

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I. Introduction
The optical character recognition (OCR) is a standout amongst the most arduous topics in the field of pattern recognition. Efficient extraction of handwritten text into lines, words and characters is the core component of a recognition system. In a document image, the initial step is format investigation and extraction of text-lines. Given an offline unconstrained handwritten document, it consists of two pivotal steps namely: 1) text-line extraction and 2) character segmentation. Character segmentation is divided into two basic components namely extracting text-lines from text images and character segmentation. Text-lines are first segmented into dissented individual character images. Finally, the character images are provided to the classifier and thus the corresponding class labels are obtained. Thus

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