Abstract

Handwritten character recognition has received extensive attention in academic and production fields. The recognition system can be either online or off-line. There is a large demand for handwritten text recognition and handwritten documents. This paper describes an effective approach for the offline recognition of handwritten Kannada texts. Under the general integrated segmentation-and-recognition benchmark with character over-segmentation and
Recognizes the handwritten Kannada text, whenever there is multiple contexts in the text pattern and it is independent of size, slant, orientation, and translation, this approach investigates three important issues: candidate path evaluation, path search, and parameter estimation. In the path evaluation method, we integrate multiple contexts of the text (character recognition scores, geometric and linguistic contexts) from the Bayesian decision view, and convert the classifier outputs to posterior probabilities using confidence transformation. In path search, refined beam search algorithm is used to improve the search efficiency and use a candidate character augmentation mechanism to improve the recognition accuracy. The combining weights of the path evaluation function are optimized by supervised learning using a Maximum Character Accuracy criterion. This method evaluates the recognition performance on Kannada handwritten text images, which contains Kannada letters, words and sentences. The experimented result shows that confidence transformation and combining multiple contexts improve the text line recognition performance, efficiency and throughput significantly.

References

- Statistical Texture Features based Handwritten and Printed Text Classification in South Indian Documents Mallikarjun Hangargea, K. C. Santosh, Srikanth Doddamania, Rajmohan Pardeshi
- Divide and Conquer Technique in Online Handwritten Kannada Character Recognition M. Mahadeva Prasad Dept. of Electronics Mysore University P. G. Centre Hassan, INDIA. prasada9@gmail.com M. Sukumar Dept. of Instrumentation Technology S. J. College of Engineering Mysore, INDIA. m_sukumar@rediffmail.com A. G. Ramakrishnan Dept. of Electrical Engineering Indian Institute of Science Bangalore, INDIA. ramkiag@ee.iisc.ernet.in
- Recognition of isolated handwritten Kannada vowels Sangame S. K. 1, Ramteke R. J. 1, Rajkumar Benne2.
- B. V. Dhandra, Mallikarjun Hangarge, Gururaj Mukrambi, &quot;Spatial Features for Handwritten Kannada and English Character Recognition System,” Special Issue on RTIPPR-10, International Journal of Computer Applications (IJCA).
- M. Nakagawa, B. Zhu, and M. Onuma, "A Model of On-Line Handwritten
Japanese Text Recognition Free from Line Direction and Writing Format Constraints,

Index Terms

Computer Science Image Processing

Keywords

Handwritten Kannada Text Recognition Bayesian Decision View Kannada Letters And Words Refined

Beam Search Algorithm

Over Segmentation

Candidate Character Augmentation.