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Abstract

Several applications of cognitive informatics are coupled with automatic acquisition and processing of data and images for recognition and classification. There are many algorithms with wide-ranging performance in pattern recognition. A computer recognizes a character as a pattern from its digital image or from a set of parameters picked from its digital representation. This paper explores an optimal algorithm for pattern and printed character recognition which

improves the performance in our world of noise and multiple styles of font. This approach is based on a permutation invariant Rao Alaka Shift Transformation (RAST) and tests for several printed alphanumeric characters in three different fonts. A template of the character for comparison is generated, in the transformed domain, after applying RAST to the digital image of the character in the chosen fonts. Pattern recognition is attempted also by rotating the images by about 25 degrees on either side. Better recognition performance is expected of the proposed approach when compared with the spatial domain. The results obtained in this study are found to be very encouraging and promising.

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Index Terms

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Keywords

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