

Abstract

Pattern recognition is one of OCR application which has grown fast and is supported by many new theories and algorithm. The most important problem is how to recognize character with various size and shapes.

The recognition problem can be solved by applying feature extraction technique using chain code based algorithm and KNN for classification that can result the right output as expected. Then, analyze features and accuracy level of system and factors that can change accuracy level.

Chain code is a method that extract boundary of object pixels by 8 connected and each neighbors is represented by an integer. Transition value of pixels is inserted become chain code. Chain code and other feature can be features vector that give uniqueness for each character so that recognition result has a good accuracy.

Final result shows that chain code based algorithm can be used as a feature extraction method for recognizing alphabet because it describes every pattern with different chain code. Accuracy level of character recognition is influenced by normalization size of image, chain code digit number, shape of character, and k value of KNN.

Keywords: OCR, alphabet character, chain code, KNN