

OPTICAL CHARACTER RECOGNITION USING TEMPLATE MATCHING (ALPHABETS & NUMBERS)

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ABSTRACT

Optical character recognition has become one of the most successful applications of technology in the field of pattern recognition and artificial intelligence. Optical Character Recognition deals with the problem of recognizing optically processed characters. Optical recognition is performed off-line after the writing or printing has been completed, as opposed to on-line recognition where the computer recognizes the characters as they are drawn. Optical Character Recognition by using Template Matching is a system prototype that useful to recognize the character or alphabet by comparing two images of the alphabet. The objectives of this system prototype are to develop a prototype for the Optical Character Recognition (OCR) system and to implement the Template Matching algorithm in developing the system prototype.

This system prototype has its own scopes which are using Template Matching as the algorithm that applied to recognize the characters, characters to be tested are alphabet (A – Z), grey-scale images were used with Times New Roman font type and recognizing the alphabet by comparing between two images. The purpose of this system prototype is to solve the problem in recognizing the character which is before that it is difficult to recognize the character without using any techniques and Template Matching is as one of the solution to overcome the problem. The processes are starting from the acquisition process, filtering process, threshold the image, clustering the image of alphabet and lastly recognize the alphabet. All of these processes are very important to get the result of recognition after comparing the two character images.

KEYWORDS: OCR, Template Matching, Gray Scale Images, Color Images, Fixed Size Templates