290. IMPROVED ALGORITHMS FOR ENHANCEMENT OF DEGRADED DOCUMENT IMAGES

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Abstract—Enhancement of text information from theimages captured by hand held devices is a very challenging task due to the high variation between the background and the foreground that contains shadows, poor contrast and non uniform illumination. In this paper, denoising along with binarization algorithm that uses phase congruency features is proposed to extract the text information from the document images. In the pre-processing step, the image is denoised and combined with canny edge map to preserve the edge information of the text. In the next step, the phase congruency map is obtained from the document image and it is combined with the image obtained in the pre-processing step. The post-processing step is to improve the quality of the texts by using morphological operations. Experimental results shows that the proposed method performs well in enhancing the document images captured using hand held devices.

Index Terms—Denoising, Binarization, Canny edge map,Phase congruency features.

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