

MARKER BASED WATERSHED TRANSFORMATION FOR IMAGE SEGMENTATION

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ABSTRACT

The image segmentation is one of the most challenging tasks in the field of image processing and pattern recognition. Watershed transform is a technique that always generates closed contours for every region of an image and one of the best techniques used for image segmentation but over segmentation is a major drawback of this method for which present study was undertaken to devise a new three step methodology for image segmentation using watershed transformation working firstly with pre-segmentation processing then detecting edges of image and then computing watershed transformation. As a result of applying these segmentation processes on image, better results were observed than traditional methodology. Improved marker based watershed transformation for image segmentation was done using MATLAB.

KEYWORDS: Image Segmentation, Watershed Transformation, Prewitt's Operator, Non-Local Means Filter, Adaptive Histogram Equalization, Image Enhancement