An improved watershed image segmentation technique using matlab

[1]Arun, [2]Bipin Kumar Ray, [3]Nitin Raghuvanshi, [4]Prem Kumar, [5]Prerna Wagadre

[1,2,3,4] B.tech Student Bhopal Institute of Technology, Bhopal, (M.P), India
[*5]Assistant Professor, Bhopal Institute of Technology, Bhopal, (M.P), India

[*]Corresponding Author: Prerna Wagadre
Email: Prernawagadre@gmail.com

Abstract:

Watershed Transformation in mathematical morphology is a powerful tool for image segmentation. Watershed transformation based segmentation is generally marker controlled segmentation. This paper purposes a novel method of image segmentation that includes image enhancement and noise removal techniques with the Prewitt's edge detection operator. The proposed method is evaluated and compared to existing method. The results show that the proposed method could effectively reduce the over segmentation effect and achieve more accurate segmentation results than the existing method.

Keywords:

Image Segmentation, Image enhancement, Marker Controlled Watershed Segmentation, Prewitt's operator, Watershed Transformation