Image segmentation plays vital role to understand an image. Only proper understanding of an image tells that what it represents and the various objects present in the image. In this paper we have proposed a new approach by using CIELab color space and Ant based clustering for the segmentation of color images. Image segmentation process divides an image into distinct
regions with property that each region is characterized by unique feature such as intensity, color etc. This paper elaborates the ant based clustering for image segmentation. CMC distance is used to calculate the distance between pixels as this color metric gives good results with CIELab color space. Results shows the segmentation performed using ant based clustering and also shows that number of clusters for the image with particular CMC distance also varies. In order to evaluate the performance of proposed technique, MSE (Mean Square Error) is used. MSE is the global quality measure based on pixel difference. To verify our work, we have compared the results with results of color image quantization using LAB color model based on Bacteria Foraging Optimization [13].

Reference

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Color Image Segmentation using CIELab Color Space using Ant Colony Optimization

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**Index Terms**

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**Key words**

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CIELab color space segmentation