Abstract

One of the new and promising algorithms appeared in the area of image segmentation is the Fuzzy C-Means algorithm. This algorithm has been used in many applications such as: data analysis, pattern recognition, and image segmentation. It has the advantages of producing high quality segmentation compared to the other available algorithms. Our work in this paper will be based on the Fuzzy C-Means algorithm and by adding the relational fuzzy notion to it so as to enhance its performance especially in the area of 2-D gel images. The simulation results of comparing the Fuzzy C-Means (FCM) and the proposed algorithm Relational Fuzzy C-Means (RFCM) on 2D gel images acquired from: Human leukemias, HL-60 cell lines and Fetal alcohol syndrome (FAS) show the improvement achieved by the proposed algorithm in overcoming the over-segmentation error.

References


www.ccrnb.ncifcrf.gov/2DgelDataSets

**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Fuzzification  
Image Segmentation  
Protein Spot Detection  
2d Gel Images