An Efficient Segmentation Method for Overlapping Chromosome Images

Abstract

Systems are being developed to automate the task of classification of chromosomes. The chromosomes are non-rigid material and they are several times touching each other or they overlap each other in the metaphase images. So different techniques are required to segregate the overlapping chromosomes. This paper presents a novel method for segmenting chromosomes based upon computational geometry. In the proposed approach first the contour line is traced for the overlapping chromosomes and then all the cut points are traced for the overlapping chromosomes. Then based on computational geometry method a specific number of cut points are selected and they are used for separating the two chromosomes. We have found that 87.4% of the images were correctly segmented using the proposed method.

References

An Efficient Segmentation Method for Overlapping Chromosome Images


Index Terms

Computer Science
Image Processing

Keywords
Chromosome segmentation  chromosome analysis  overlapping chromosomes