Abstract

In this paper, a novel method for automated diagnosis of cervical cancer by extracting cytoplasm and nuclei from cervical cytology images is described. The background is removed by preprocessing methods like Edge sharpening and Adaptive Histogram Equalization. Fuzzy thresholding and Active contours are used for extracting the region of interest containing the cytoplasm and nuclei. The nuclei are separated from the cytoplasm using linear contrast stretching. The nucleus to cytoplasm ratio is used to determine the stage of cancer.

References

- Shys-Fan Yang-Mao, Yung-Kuan Chan, and Yen-Ping Chu. Edge Enhancement Nucleus and Cytoplasm Contour Detector of Cervical Smear Images, IEEE Transactions on
Index Terms

Computer Science  Fuzzy Systems

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Cervical Cancer  Cervical Cytology images  Linear Contrast Stretching  Adaptive Histogram Equalization

Fuzzy thresholding

Active Contours