Abstract

Main objective of this paper is to extract nucleus of white cells using image processing techniques. Here, nucleus of white cells are extracted from images using HSV color space and YCbCr color space. Using both of method, comparison between two methods has been checked. It has been proved that YCbCr is better than HSV color model by some experiment. Here, experiment is done on 15 images. HSV color model is given accurate result only on 5 images out of 15 and YCbCr color is given accurate model only on 13 images out of 15. So accuracy of HSV and YCbCr model is 33.34% and 86.67% respectively. Here, white cell nucleus detection is useful to detect, blood cancer or Leukemia. It reduce processing time of pathologist and give result in short period of time.

References


7. Mazalan SM, Mahmood NH, Razak MA. Automated red blood cells counting in peripheral blood smear image using circular Hough transform. In Artificial Intelligence, Modelling and Simulation (AIMS), 2013 1st International Conference on 2013 Dec 3 (pp. 320-324). IEEE.

8. Adagale SS, Pawar SS. Image segmentation using PCNN and template matching for blood cell counting. InComputational Intelligence and Computing Research (ICCIC), 2013 IEEE International Conference on 2013 Dec 26 (pp. 1-5). IEEE.


14. Figure 1 the formation of myeloid and lymphoid series of cell [Online] Available at: http://masonposner.com/afisheyeview/wp-content/uploads/2010/03/380px-Illu_blood_cell_lineage.jpg

15. Figure 2 Different type of white cells[Online] Available at: https://www.medschool.lsuhsc.edu / pathology/ docs/ Blood%20Cell%20Morphology%20Tutorial.pdf 4 April 2016

16. Figure 4(a) [Online]: Available at: http://imagebank.hematology.org /getimagebyid /2150? Size=3 4 April 2016

17. Figure 6(a) [Online]: Available at: http:// www.clevelandclinicmeded.com / medicalpubs /
Index Terms

Computer Science Image Processing

Keywords

Nucleus of white cell detection, HSV color model, YCbCr color model, image processing