

ABSTRACT

Red blood cell counting in this era have a lot of progress, not use the manually counting but it is use the advance of technology by using Digital Image Processing. Various kind methode in digital image processing have been used in red blood cell counting. For example, colour and cell size analysis methode, morphology operation, red blood cell physics structure analysis and also with adavtive threshold methode. All of that methode give the good accuracy result. But there is a methode that hoped give more accuracy than the other methode that have been used. That methode is optimal threshold.

Optimal threshold methode count the value of threshold that give the minimum or maximum of a function. Optimal threshold methode can be classified by non-parametric and parametric optimal thesholding. In this final project has been analyzed about the use of optimal threshold methode to count red blood cell. Input used in in the form of two dimension image 256x256 pixel for parametric optimal threshold and with out limitation for non-parametric optimal threshold. In order to give the best result, a research use image adjustmen and histogram equalization is used. Special for parametric optimal threshold, a research for the effect of the changing of histogram value is done for image adjustmen and also histogram equalization. The scale value was used not only 256, but also 128, 64 and 16.

The result of the research give the best accuracy was obtained in image adjustmen with histogram scale value is 16 with 79.532% and the computation time was 0,274-11.4967 seconds. The accuration for non-parametric optimal threshold was 80,578% and the computation time arround 0,3105-0,4978 seconds.

Keyword : Digital Image Processing, red blood cell, optimal threshold