

Human parasitic worm detection using image processing technique

R. S. Hadi^a; Ir. Z. Khalidin^b; K.H. Ghazali^a; M. Zeehaida^c

^aVision and Intelligent System Research Lab Universiti Malaysia Pahang Pekan, Pahang, Malaysia

^bDean of Electrical Engineering Department Universiti Malaysia Pahang Pekan, Pahang, Malaysia.

^cDepartment of Medical Microbiology & Parasitology School of Medical Sciences, Universiti Sains Malaysia Kelantan, Malaysia

ABSTRACT

Intestinal parasites of protozoa and helminthes may cause disease or even death to animals and humans. In a current study of fecal sample examination to detect parasites, a technologist examines images manually using a lighted microscope. This method of examination is known to be inefficient when it involves a large number of samples. On top of that, it is very important to introduce a system that is capable of assisting the technologist in the examination of fecal samples. In this paper, an automatic process is proposed to detect different types of parasites from fecal samples using an image processing technique. Image processing techniques have been introduced to automatically screen the existence of parasites in human fecal specimens. This process involves methods such as noise reduction, contrast enhancement, segmentation, and morphological analysis. At the classification stage, we propose a simple classification method using logical threshold, whereby the ranges of feature values have been identified to classify the type of parasite. The proposed system has been tested with 100 parasite images of each class, which promotes accuracy.

KEYWORDS:

Automatic parasitic detection; image processing; MATLAB toolbox.

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