

Nirmawaty, Dewi., 2012. *Detection of Cervical Cancer (Uteri Cervix Carcinoma) at The CT-Scan Recorded Images using Artificial Neural Network. This thesis was under the guidance of Prof. Dr. Ir. Suhariningsih and Delima Ayu Saraswati, ST. MT., Biomedical Engineering, Faculty of Science and Technology, Airlangga University.*

Abstract

Organ regions with cervical cancer abnormality in the images recorded by CT-Scan is clinically difficult to distinguish, because the intensity of the image colors of the organ and the cancer are almost the same. Cervical cancer CT-Scan image comprises three main objects, namely bone, cervix organ, and the organ with the cancer. The usage of Artificial Neural Network (ANN) was expected to assist paramedics in this field to detect the location of the cancer. Detection of cervical cancer was conducted by using artificial neural network to the CT-Scan recorded images. The CT-Scan recorded images were converted into digital form using image processing techniques. Digital conversion, using color segmentation feature extraction, resulted in a dominant characteristic, which then represented the area of the cancer. The dominant characteristic was used as an input to the neural network for training and testing phases. In the detection of cervical cancer, the stage of learning with surveillance utilized perceptron method. Software system for the detection of cervical cancer was developed by using Delphi. The conclusion a software that can automatically detect organ regions with cervical cancer abnormality was derived with the accuracy of 90 %.

Keywords : *Neural Network, Cancer Detection, CT-Scan.*