ABSTRACT

Colon cancer or colorectal cancer is a type of cancer that attacks the colon or the last part of human digestive system. There are several types of cancer that attack the human's colon is Lymphoma, Sarcoma, and Carcinoma. The aim of this final project is to produce a system that can detect and classify images into type of colon cancer Lymphoma, Carcinoma cancer, or normal.

The system that designed in this final project uses 198 data of colon cancer tissue pathology. This system will classify colon cancer start from image preprocessing, feature extraction using Principal Componen Analysis (PCA) and classification using K-Nearest Neighbor (K-NN) method. Tests will be done by trying some K-NN input parameter setting

The result of this research is an image processing system that can detect and classify type of colon cancer. In this study the highest accuracy obtained using K-NN classification with K=1 and using minkowski distance. The accuracy result of this system is 68,52%.

Keywords : *colorectal cancer, PCA, K-Nearest Neighbor algorithm*