ABSTRACT

Dengue hemorrhagic fever or often called DHF is a disease that commonly happens in Indonesia.Identification of the disease is usually using conventional method and sometimes less accurate. This led to identification of conventional become inefficient.

In this final project has implemented a system to detect the disease dengue hemorrhagic fever (DHF) with plasma lymphocytes blue using texture analysis with Gabor filters and *k-NearestNeigbhour* (*k-NN*). Gabor filter is a powerful algorithm to extract features for minimizing non-essential features in the spatial domain and frequency. While the *k-NN* perform image classification into two conditions that are normal and again divided again into normal leukocytes and lymphocytes, and the condition of dengue infection.

System produced the highest accuracy in this Final is 96,55% for the 62 test images. Accuration of normal blood conditions 93,33% and 96,55% are infected with dengue.

Key words : *Dengue Hemorrhagic Fever*, texture analysis, gabor filter, digital image procesing, k-NN