# ABSTRACT

Skin is one of external organ which limit other organ with human environment. Skin also as an organ which essential and vital, skin also as a health figure which very complex, elastic and sensitive, various in climate condition, age, racial and also depend on location of body. Skin of human are not free from infection (sterile) because surface of skin contain a lot of food materials (nutrition) for organism growth, for example fat, materials which contain nitrogen, mineral, and many more which are addition result of ceratinitation process or result of skin appendix. With this condition, skin of human is easy to be infected by bacteria, fungus or virus which causes various types of skin diseases. In medical science, one of methods to diagnose someone whom infected or not infected is by look directly to her/his skin. But actually, there is other method beside the method by look directly to the skin. The method is by Digital Image Processing technique.

This final project's goal is to implement Digital Image Processing technique to produce software which can diagnose an image of infected skin, classify the type of the diseases, and analyze the type performance of color and texture analysis which is used. Generally, this skin disease classification system is consist of two main parts, feature extraction using combination of Color Histogram and Edge Histogram Descriptor, where Color Histogram is used to extract color feature and Edge Histogram Descriptor is used to extract texture feature, and feature classification uses K-Nearest Neighbor method.

Then software produced is tested to measure the accuracy and classification time. The result of testing shows that combination of color feature and texture feature gives higher accuracy (up to 75.2%) if compared to the classification which just based on color feature (up to 56.8%) or texture feature (up to 65.6%), But by using the method which combines two features mentioned, the classification time become longer.



**Keyword : skin disease, feature extraction, Color Histogram, Edge Histogram Descriptor, K-Nearest Neighbor**