

ABSTRACT

Image processing plays an important role in various fields of industry fields such as textiles (cloth). Damage to the main fabric is the ink bleed, fabric holes and errors in the repetition of texture.

Control of fabric defects is still less efficient because it is still done manually. One way to recognize an image is to distinguish the texture of an image-forming basic component. The texture image can be distinguished by density, uniformity, regularity, roughness, and others. Because computers can not distinguish the texture as well as human vision, texture analysis is used to determine the pattern of a digital image based on characteristics derived mathematically

One method of texture analysis is the run length method. This method recognizes the number of runs in a pixel with the same intensity level and the sequence in one particular direction. Then the characteristic texture can be obtained from the SRE (Short Run Emphasis), LRE (Long Run Emphasis), GRU (Grey Level uniformity), RLU (Run Length uniformity), and RPC (Run Percentage). The five traits were then used for classification using k-NN (k-Nearest Neighbor). Smooth texture will produce a value of SRE, RLU, and RPC large and small LRE value. Instead rough texture will produce a large LRE value but the value of SRE, RLU, and RPC are small. After that will be the k-NN classification by comparing the characteristic texture closest comparison between the data and the data are compared.

To analyze the damage of cloth, will be video capturing, convert into grey and identify the number of runs in a pixel with the same intensity level and tertent sequentially in one direction, so that the texture features obtained from image.

The results of the compilation / writing of this Final Project is to design a system that can detect a damaged fabric with a fast and precise accuracy.