

Abstract

In its development, current CBIR systems still use most of the properties in the form of image color, texture, and shape to represent an image. Average CBIR system using only one image properties only. Existing systems now, sometimes its performance is still considered to be less by the user. This can be caused by differences in perception between users (humans) with the system (machine) in interpreting an image. A pair of images that are considered similar by the system is not necessarily considered the same by the user. One solution of the above problems can be done by combining the user's perception of the image into the CBIR system. The process of merging can be done by weight optimization of the distance function used in CBIR systems. Distance function is the equation used to calculate the similarity scale between 2 (two) image. Results from the distance calculation function is usually a distance metric or dissimilarity metric.

First, do an experiment (human perception of similarity experiments / models of human perception experiment) to obtain the value of human perception of image or perception of the user matrix. Perception of this matrix will serve as a guide in the process of optimization of the distance weight function. Optimization process itself will use a genetic algorithm. Weight resulting from this optimization process to be used in the distance function in CBIR systems.

From observation and tests performed, the best results obtained to improve the precision value of 2% or 0.02 in the n-image of 20 (twenty) showing the performance of CBIR system in finding the relevant image.

Keywords : Content Based Image Retrieval, Model of Human Perception, Genetic Algorithm, Precision.