Abstract

Identity is a self reflection that attached to someone. Identity has a function to distinguish someone to somebody else. Because identity is a personal thing, it needs a security key to gain access to a person's identity. By the rise of technology, security key can be replaced using a biological representation. The security key by using a biological representation is called biometrics. An example of the use of biometrics is to use a face. This research will be built biometric facial identification systems.

This face identification system is consist of data collection step, preprocessing, feature extraction and matching. Feature extraction process is performed by Local Derivative Pattern (LDP) method which is the development of Local Binary Pattern (LBP) method. LDP is choosen because LDP can take feature from an image based on gray level of a pixel. Feature extraction in LDP is done by counting the value of neighbourhood based on direction descriptor. Then the next step is matching which is done by Histogram Intersection with count the similar value of histogram.

The result of this experiment is showed that the best result of feature extraction of LDP is 98,47% with 2nd order, 4th radius, and 4 regions parameter combination. Then it will experimented in system performance and the system get the best EER value as much 4,7055% with the threshold value is 0,885.

Keyword: biometrics, Local Derivative Pattern, Histogram Intersection, threshold