Abstract

Fingerprint is one of the limbs that can be used for the identification process. The problem of classification using fingerprints is usually done to identify one's identity. An important function of fingerprint for example is as a tool of human identity verification. When a fingerprint image is viewed closer, it will show a thick line pattern with various types of branching. Every human fingerprint has a different pattern and is unique. Many features that can be extracted on a fingerprint, can be a broken or branched pattern, this feature is usually called minutiae / minutia. In order to be able to process the classification, minutia contained on the fingerprint must be extracted first into the form of information that represents each fingerprint.

Many methods are offered for fingerprint classification. Methods are usually machine-based learning such as SVM (Support Vector Machine) method, as well as other methods that can be examined further such as template matching / matching templates, this method has a high difficulty level because the classification will be done directly on features that have been extracted. The advantages of the template matching method is the speed of the count without the learning process.

The template matching classification process works by matching the fingerprint data test template to the train / train templates contained in the data. The matching process is based on the extracted minutia feature. The matching process is done using the euclidean distance / distance euclid approach for each feature. Thus, the fingerprint classification using the extraction method minutiae extraction / extract minutia method and the template matching classification can be a combination to solve the fingerprint classification problem.

Keywords: template matching, minutiae extration, fingerprint classification, fingerprint classification, feature extraction minutia.