

## ABSTRACT

Biometric is a technology to recognize someone by unique physic feature and can't be duplicated. One of the unique physic feature and commonly used is fingerprint. It is common used because of its uniqueness feature, no one in this world has the same fingerprint as the other. Beside, fingerprint won't change, except it gets serious accident or scars. This fingerprint technology also can be applied in dactyloscopy for police identification.

In identification process, core point is one of the most important factor. This core point detection can be applied both manually and automatically. This final project uses geometry of region technique to determine core point automatically, especially loop and whorl type. First step is preprocessing to the fingerprint image which will be determined the core point. Next, determine the core point in two steps, detect in oriented image scale and detect ini block area. Detection in block area is divided into two area, using masking and determine a point in defined coordinate which is considered representate core point for common fingerprint, both loop and whorl.

Experiment result of the system is divided into three region, range A, range B, and beyond both of them. Range A is defined for fingerprint classifying, while range B is defined for dactyloscopy identification. In loop using masking method in block area, earn range A ACP 100% and range B ACP 70,96%, and without FCP. While loop type using defined coordinate earn range A ACP 100%, range B ACP 77,41% and with no FCP too. For whorl type using masking method earn range A ACP 83,33% and range B ACP 20%, with FCP 16,66% . While whorl type using defined coordinate earn range A ACP 86,66% and range B ACP 46,66%, and FCP 13,33%.

**Keywords:** fingerprint, geometry of region technique, core point