

Thesis Title	The Automated Fingerprint Identification System
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Level of Study	Master of Science (Computer Science and Information Technology)
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Year	1997

Abstract

Due to the fact that each fingerprint is unique and not subject to change throughout a person's life, the Automated Fingerprint Identification System (AFIS) utilized in Thai Royal Police Department has been developed for convenient and rapid person identification. The process begins by improving the quality of the grey level image , to be converted to a binary image for better quality according to the principle of fuzzy. Then the binary fingerprint image is used to analyze the core point, axis and the directional image which is later registered to the Back Propagation Neural Network in order to find the pattern of the fingerprint. The final result is an index to select the same pattern of fingerprint, To compare and identify which criteria is the similarity score computed from the relationships. These include type of minutiae, ending point and bifurcation point, direction of minutia and the number of lines between two relational minutiae. These are used to determine whether or not they are from the same fingerprint.