

Fingerprint Minutiae Extraction

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Abstract— *The most widely used method for fingerprint recognition is based on minutiae matching. A critical step in such systems is to automatically and reliably extract minutiae from the input fingerprint images. However, fingerprint images are rarely of perfect quality. They may be degraded and corrupted due to variations in skin and impression conditions. Thus, image enhancement techniques are employed prior to minutiae extraction to obtain more reliable estimation of minutiae locations.*

The objective of this paper is to present a fingerprint minutiae extraction method. It includes two main steps: fingerprint image enhancements and minutiae extraction. Two methods are adopted for Image Enhancement: the first one is based on Fourier Transform and the other is Histogram Equalization. Minutiae extraction process includes Binarization, Thinning, Minutiae Detection, and finally removing false minutiae. The validity of adopted algorithms is tested on fingerprint images of FVC2002 database. A good ratio of true minutiae detection is achieved.

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