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RESEARCH ARTICLE

Fingerprint Authentication System Using Minutiae Matching and Application

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Abstract—Fingerprints are the most widely used biometric feature for person identification and verification in the field of biometric identification. Fingerprints possess two main types of features that are used for automatic fingerprint identification and verification: (i) global ridge and furrow structure that forms a special pattern in the central region of the fingerprint and (ii) minutiae details associated with the local ridge and furrow structure. This paper presents the implementation of a minutiae based approach to fingerprint identification and verification and serves as a review of the different techniques used in various steps in the development of minutiae based Automatic Fingerprint Identification System (AFIS). The technique conferred in this paper is based on the extraction of minutiae from the thinned, binarized and segmented version of a fingerprint image.

Keywords— Fingerprint, Enhancement, Segmentation, Minutiae Extraction, Minutiae Matching

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