Fingerprint Ridge Distance Estimation: A Mathematical Modeling

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Abstract

In this paper, fingerprint image is mathematically modeled by using a 2D sinusoidal function in a local window of size 32x32. The estimated ridge distance is then found by using the Levenberg-Marquardt gradient descent method. From test images, it has been found that the error percentage is 5% or less for fingerprint images of good to moderate quality with ridge distances between five and 20 pixels corrupted with zero mean white Gaussian noise of variance levels between zero and 1.

References

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Index Terms

Computer Science Pattern Recognition

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