Rank-level Fusion of Multispectral Palmprints

International Journal of Computer Applications
© 2012 by IJCA Journal

Volume 38 - Number 2

Year of Publication: 2012

Authors:
Neha Mittal
Madasu Hanmandlu
Jyotsana Grover
Ritu Vijay

10.5120/4662-6761

{bibtex}pxc3876761.bib{/bibtex}

Abstract

This paper presents an approach for the personal authentication using rank-level fusion of multispectral palmprints, instead of using multiple biometric modalities and multiple matchers. The rank level fusion involving the non linear combination of hyperbolic tangent functions gives the best recognition rate for the Rank 1 obtained from two types of features, viz., sigmoid and fuzzy. The results of using rank level fusion on the publicly available multispectral palmprint database show the significant improvement in the recognition rate as compared to the individual spectral bands. Recognition rate of 99.4% from sigmoid features and that of 99.2% from fuzzy features based on Rank 1 is the outcome of the hyperbolic tangent nonlinearity.

Refer
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References


Index Terms

Computer Science
Biometrics
Keywords
Rank level fusion  Multi spectral palmprint  Borda Count  hyperbolic tangent