Abstract

Handwriting identification has become a major area for research these days. It refers to the ability of the computer to receive the image of the handwritten character from sources such as paper documents, touch screens, etc and compare it with an existing database. Handwriting and hand-printing analysis is applied to many types of investigation: fraud, homicide, suicide, drug trafficking and clandestine labs, sexual offences, threats and extortion, blackmail, arson, bombings, and theft. It is also implemented in many subjective handwritten exams in cases of discrepancies. This paper is aimed at obtaining a unique and unambiguous approach to do the same using the Discrete Wavelet Transform. Each and every character scribbled is treated as a specific shape and hence its corresponding features are extracted using DWT. These features are used to compare the handwritten characters of various individuals with the database. The algorithm developed in this paper is done using the English script calligraphy and could be comfortably applied to every other script using the same procedure.

References
Handwriting Identification using Connected Component Analysis and 2D- Discrete Wavelet Transform

- Somaya Al-Ma'adeed, "Text-Dependent Writer Identification for Arabic Handwriting".
- Daubechies "Orthonormal bases of compactly supported wavelets"; Comm on pure and Applied Mathematics, vol XL1, pp 909-996, 1998
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**Index Terms**

Computer Science  
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**Keywords**

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