Watermarking for Security Issue of Handwritten Documents with FCN

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INTRODUCTION

- Various handwritten documents are in use at notarized agreements, judicial documents, bank transfer forms, engineering drawing, etc.
- During document exchange over the digital channels, the handwritten documents are possibly intercepted and easily altered by malicious users.
- How to secure the handwritten documents by utilizing data hiding technique (digital watermarking/ steganography) instead of forensic document examination (signature determination, handwriting identification, ink verification, etc.).

OBJECTIVE

- Trust or not
- Detecting stable watermarking regions used to hide secret information for document security purpose.
- Resisting to various distortions including image processing operations, geometric transformation and print-and-scan process.
- Satisfying the essential requirements of capacity, robustness and imperceptibility.

METHOD

- Pre-processing and standardization
- Watermarking region detection
- Watermark hiding process
- Watermark detection process

CONCLUSION

- Firstly proposing a watermarking approach for security issue of handwriting documents.
- Making use of the cutting-edge technique of FCN in detecting watermarking regions.
- Effectively applying for handwriting and general typewriting documents.
- Resisting to image processing operations and printing and scanning distortions.
- For future works, enhancing the robustness against complicated distortions such as print-photocopy-scan process and print-camera capture.

REFERENCES