

The use of fingerprints available on the web to forge identity documents in Brazil

Fingerprints images available on the web have been used by criminals to forge identity documents in Brazil, sometimes printed in a reversed (mirrored) way in the documents. In this work, 100 fingerprints images downloaded from the web, as well as their reversals obtained by image editing, were compared between themselves and against the database of the Brazilian Federal Police AFIS, in order to better understand trends about this kind of forgery in Brazil.

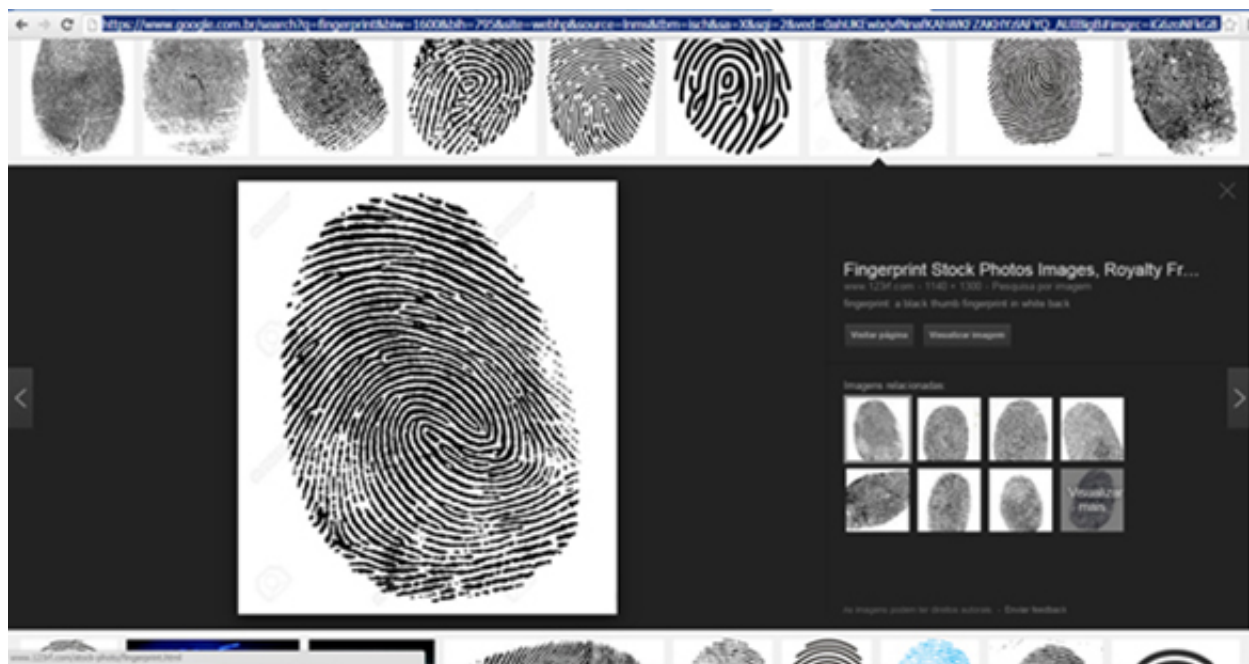


Fig. 1. 1 out of 100 fingerprint images available on the web used in this work.

Some image editing effects were observed in the analyzed fingerprints: addition of artifacts (such as watermarks), image rotation, image stylization, lateral reversal and tonal reversal. Discussion about lateral reversals' detection is presented, as well as suggestion to reduce errors when comparing reversed images of fingerprints.



Fig. 2. Copy of false identity document where the same fingerprint image displayed in Figure 1 was printed in the reversed (mirrored) way.

The present work aims to highlight the importance of the fingerprints' analysis when performing document examination, especially when only copies of documents are available and regular forensic analysis cannot be done.

Besides the intrinsic features of the fingermarks considered in traditional comparison process to evaluate whether two or more fingerprints came from the same source or not, some visual features of the fingerprints images can be helpful to identify sources of forgeries and modus operandi, such as: limits and image contours, fails in the friction ridges caused by excess or lack of inking and presence of watermarks and artifacts arising from the background.

Based on the agreement of such features in fingerprints present in different identity documents and also on the analysis of the time and location where the documents were seized, it is possible to highlight potential links between apparently unconnected crimes. Therefore, fingerprints have potential to help the police in detecting series of crimes and find the source of forgery, and should be considered by the forensic examiners when analyzing false documents.

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Publication

[The use of fingerprints available on the web in false identity documents: Analysis from a forensic intelligence perspective.](#)

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