

ABSTRACTS

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Technical Note: Signature Verification Algorithms: What They are, How They are Used, and How to Evaluate Them

Kevin P. Kulbacki, D-ABFDE, M.S., Nikolaos Kalantzis MSc, FSSocDip, Batya Miller Fuchs MSc

Over the last decade there has been a significant shift towards conducting business in a paperless and digital manner. As part of this transition, the collection of Digitally Captured Signatures (DCS—a.k.a. biometric signatures, online signatures or dynamic signatures) has increasingly replaced traditional static signatures written on paper. Traditionally, digitization of signatures has been accomplished with flat (2 dimensional) scanning of a signature executed on paper, that leads to the creation of a bitmap¹ file (i.e. static signatures) [1]. While static signatures represent visual information in the X and Y coordinates only (and hence lack information regarding the dynamic aspects of signing), dynamic signatures capture the X and Y coordinates as well as Time and Force. In conjunction with the faster pace of the digital world, businesses have had to adapt their fraud prevention efforts to handle not only more transactions, but also more sophisticated attempts at fraud. The numerical nature of the DCS data allows the contemplation of statistical methods to characterize a group of “known” DCS and then compare a “questioned” DCS versus that group, effectively performing a statistical evaluation of authenticity; various companies have invested in such algorithms that evaluate signatures in order to potentially determine whether or not a given signature was actually prepared by the purported author. This technical note discusses what these algorithms are, how they work and how they can be evaluated as per their forensic capabilities.

Line Quality in Non-original Documents Expert Opinions and Conclusions

Paolo Vaccarone and Linton Mohammed

Forensic Handwriting Examiners (FHEs) and Document Examiners (FDEs) are involved in legal cases where specific skills are required to analyse signatures and handwriting. The examiners are increasingly being asked to express their opinion regarding the authenticity of signatures and handwriting where non-original documents are involved. With this study, the authors tried to understand the expert perceptions and opinions regarding the quality of the line when the documents are in non-original format as well as whether the analysis of non-original documents also influences the final opinions rendered.

Keywords: line quality, handwriting, documents, non-original format, expert opinions, conclusion, limitations, scale of conclusion.

