

Experimental Findings on Remote Verifiability of Optical Security Features – Implications for Relying Parties

ENISA-ETSI Joint Workshop on Remote Identity Proofing

Thomas Schnattinger BSI, 03 May 2022

Manifold attack scenarios for video-based ID proofing



digital
manipulation of
ID-documents

biometric
impersonation
e.g. masks

deep
fakes,
...

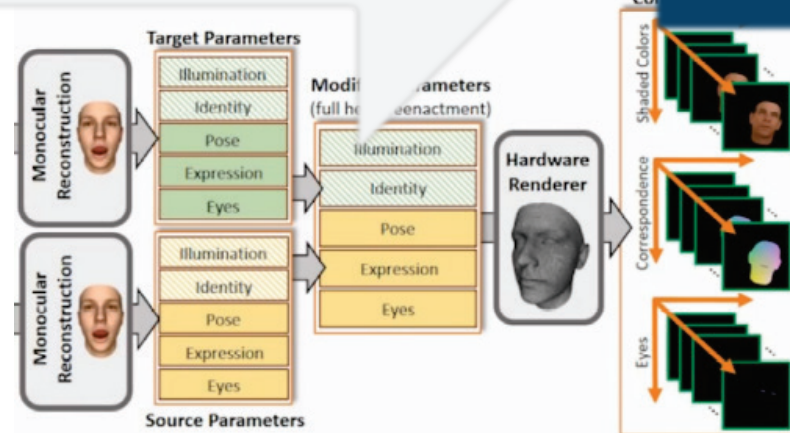
no forensic study
on counterfeited
documents so far

Manip

Bearbeitet

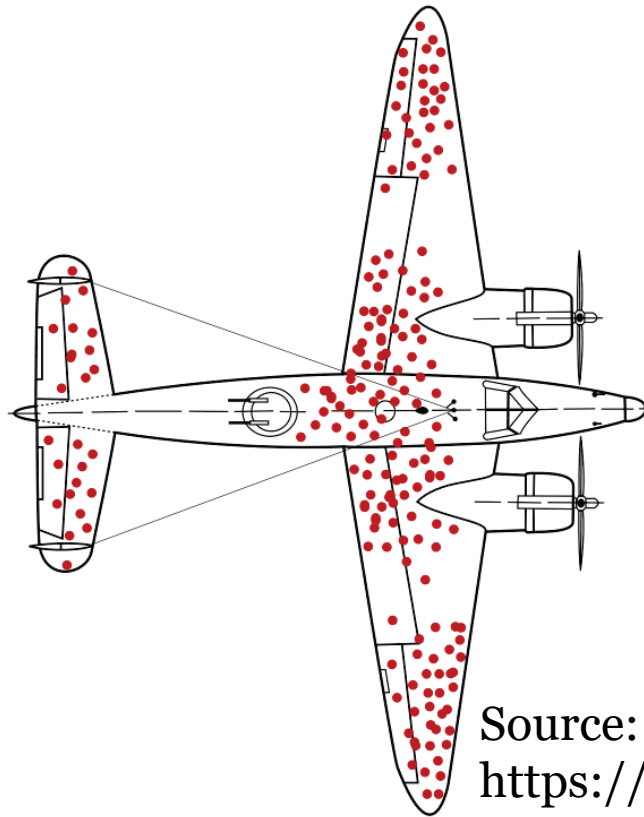
Ergebnisse / Demo Videos

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„Real-world“ counterfeits for investigating video-based ID proofing?

- Analysis of detected attacks and abnormalities is helpful,
- ... but **survivorship bias** needs to be accounted for

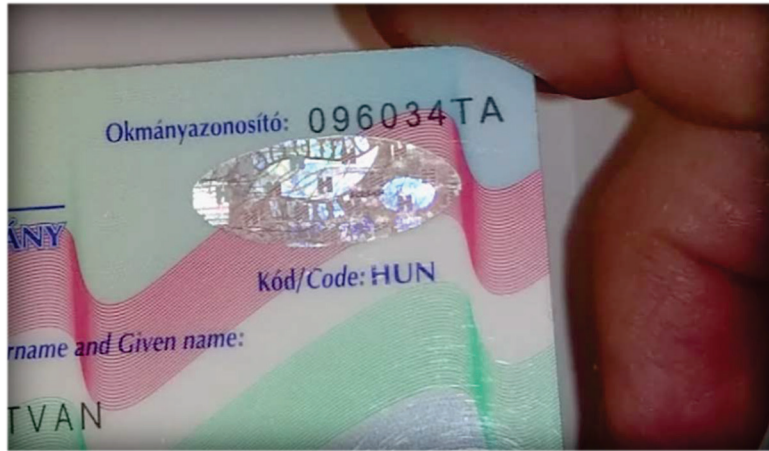


what you do not see
may be fatal
– and require
countermeasures

Source:
https://en.wikipedia.org/wiki/Abraham_Wald

Available counterfeits for investigating video-based ID proofing

- Actual circulation and use and of counterfeited documents is unknown
- Some counterfeited documents are detected in on-site ID-checks

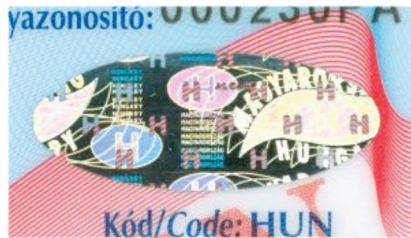


Example: Counterfeit Hungarian ID-card,
video: courtesy of the German Federal Criminal Police Office

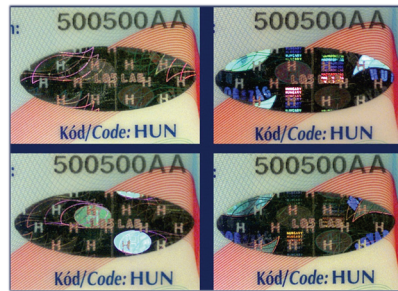
- How can these counterfeits possibly also be detected in videos?

How can we check for counterfeits?

- Document examination compares the questioned document with known references,
- but availability and quality and thus significance of comparisons varies widely



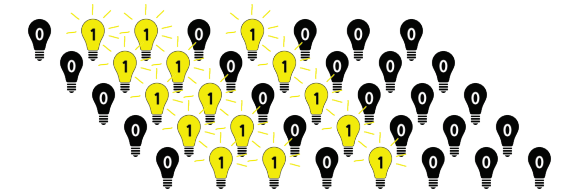
Source:
<https://www.consilium.europa.eu/prado/de/prado-start-page.html>



Source:
<https://www.edisontd.net>



Specimen Hungarian ID-document,
video: courtesy of the German
Federal Criminal Police Office



A very condensed view on video-based ID-document proofing

- Single fotos from databases can not provide sufficient insight into the expected visual behaviour of optical security features
- High resolution image sequences of specimen documents provide considerably more insight
- Additionally, illumination conditions are critical and must be considered!
- Optical features/ types of features for checking must be selected with great care!
- Expertise with the behaviour of specimen documents and specific features is essential, additional experience with sample deviations of counterfeits is very helpful
- Some first general observations from the study are now publicly available (in German)

www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/Publikationen/TechnischeRichtlinien/TR03147/TR-03147-1_Anforderungen.pdf

More information and selected recommendations will be made available in 2022

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