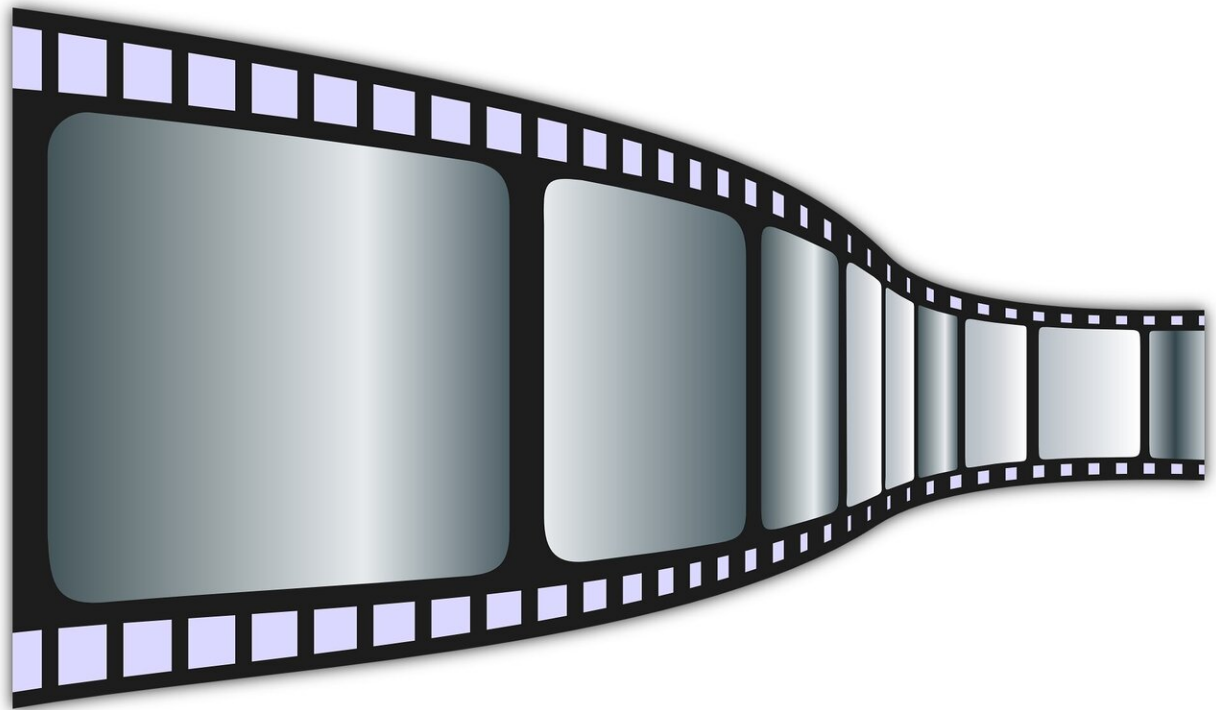


Detecting forged video evidence

September 8 2021, by David Bradley



Credit: CC0 Public Domain

Video evidence is commonly used to prove what happened during an event. However, with the emergence and rapid development of CGI (computer-generated images), deep fakes, and video manipulation, there is a pressing need for tools to detect forgeries that would otherwise undermine the value of video evidence.

A review in the *International Journal of Electronic Security and Digital Forensics* has taken a look at the state-of-the-art in video [forgery](#) detection with a particular focus on how those tools might be used to ensure evidence in a [criminal investigation](#) has not been compromised or is not a forgery. Punam Sunil Raskar and Sanjeevani Kiran Shah of Savitribai Phule Pune University, in Pune, Maharashtra, India, explain how they have categorized forgery detection tools into four distinct domains within digital forensics.

The first domain involves those tools that can help those investigating so-called "copy move attacks" (CMA). In a CMA, part of an image is cloned (selected, copied, and pasted) on to another area of the image, still or moving. It may be used to render invisible something that is incriminating or identifying in the image. A CMA might also be used to duplicate a part of an image in a suggestive manner for nefarious purposes. The second domain represents tools that can scrutinize a video and detecting tampering based on motion estimation techniques. The third area uses the principle of optical flow to identify problems with a moving object in a video suggestive of something having been faked. The fourth section looks at the specific issues that arise in extracting information from a compressed video.

It is the latter area of research on compressed [video evidence](#) that is yet to mature fully although the researchers suggest that their review points to numerous routes that might be taken in developing all of the areas of digital forensics for [video](#) evidence.

More information: Punam Sunil Raskar et al, Methods for forgery detection in digital forensics, *International Journal of Electronic Security and Digital Forensics* (2021). [DOI: 10.1504/IJESDF.2021.117310](https://doi.org/10.1504/IJESDF.2021.117310)

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