



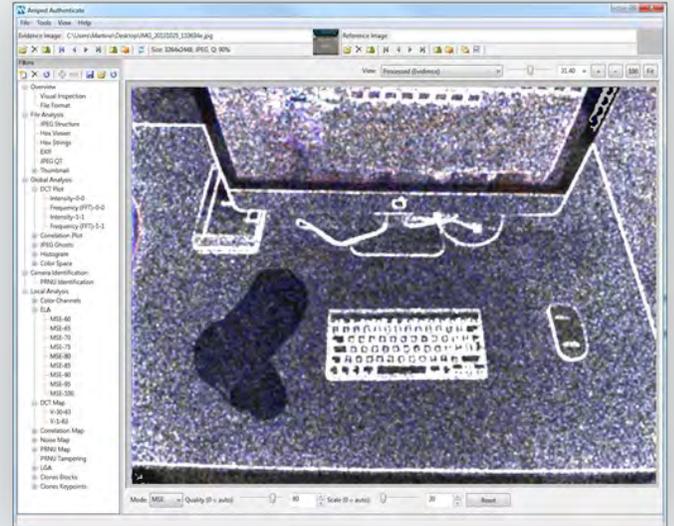
AUTHENTICATE

EFFECTIVE PHOTO FORENSICS

Amped Authenticate is a software package for forensic image authentication and tamper detection on digital photos. Authenticate provides a suite of powerful tools to determine whether an image is an unaltered original, an original generated by a specific device, or the result of manipulation with a photo editing software and thus may not be accepted as evidence.

Until now, only a few world-recognized experts were able to determine if an image used as evidence in the courtroom was effectively an original or if someone tampered with it. Experts previously had to do this with self-made tools and very specialized scientific techniques. Current products and processes are focused on one or relatively few scientific tools, or reliant on a limited database to "match" images with likely devices with little real scientific value as a "definitive" result.

Amped Authenticate puts the power of multiple tests, procedures, and reporting in one package to improve the user's ability to detect tampered images or certify originality.



- ✓ DETERMINE THE AUTHENTICITY OF AN IMAGE
- ✓ DISCOVER TAMPERED AREAS OF A PHOTO
- ✓ IMAGE BALLISTICS TOOLS TO VERIFY THE CAMERA USED TO SHOOT THE IMAGE
- ✓ BATCH TOOLS FOR MULTIPLE IMAGE ANALYSIS



IMAGE ANALYZED

AUTHENTICATE: IMAGE TAMPERING DETECTION

ORIGINAL IMAGE

GENERAL FEATURES

Supported Formats

Support for any standard image format (jpeg, tiff, bmp, png...) and raw format from digital cameras.

Available filters

More than 20 different analysis filters, with user customizable configuration and optional post processing parameters (levels, scale to enhance the displayed image).

Image Display

Embedded viewer with multiple image comparison and synchronization.

Comparison Support

Most of the filters allow comparison of the results between two images.

Output Image Export Options

Support for any standard image format (jpeg, tiff, bmp, png...).

Output Data Export Options

Export analysis output as plain text, HTML, or TSV.

Cached Processing

Filter results are saved in a cache folder for speedy subsequent analysis.

Batch Processing

Automatically apply all filters to all images in a folder.

Batch File Format Analysis

Quick automatic analysis of the format of all images in a folder to find suspicious files (trriage).

Batch File Format Comparison

Quick automatic comparison of the format of all files in a folder with the analyzed image.

Batch JPEG Comparison

Quick automatic comparison of the quantization tables of all files in a folder with the analyzed image.

Excel Integration

Export of multiple file analysis table directly to Microsoft Excel spreadsheets for further processing.

Google Maps Integration

Display image location in Google Maps.

Google Images Integration

Search for similar images and images from a certain specific camera on Google Images. Supports advanced image features filtering.

Flickr Integration

Search for images from a certain camera on Flickr. Supports advanced image features filtering.

TinEye Integration

Search for similar images on TinEye.

Extraction Of Embedded JPEGs

Extract JPEG images embedded in any file type (PDF, PPT, DOC, disk image...) for questioned document authentication support.

Samples

A rich collection of samples.

Supported Platforms

Windows XP, Vista, 7, 8. 32 bit and 64 bit version in a single installer.

Licensing Mode

Standalone software. Protected by a USB dongle, the software does not require any online activation.

INCLUDED FILTERS

Visual Inspection

Visual analysis of the image and comparison with a reference image.

File Format

Automatic inspection of most common parameters that could indicate non originality of the image.

JPEG Structure

Display and comparison of main JPEG markers.

Hex Viewer

Integrated hexadecimal viewer with search and comparison capabilities.

Hex Strings

Extraction of all textual information embedded into an image file.

EXIF

Display and comparison of EXIF information and other embedded metadata.

JPEG QT/HT

Display and comparison of JPEG quantization tables and other compression parameters of main image, embedded thumbnail and preview. Internal cameras and software database with thousands of configurations and support for user generated databases.

Thumbnail

Display of embedded thumbnail and preview images and their difference with the main image.

DCT Plot

Analysis and comparison of the histogram of DCT coefficients and its Fourier transform for detecting multiple resaves of the image.

Correlation Plot

Analysis and comparison of correlation periodicities in the image pixels to analyze the presence and consistency of demosaicing or interpolation effects.

JPEG Ghosts

Plot of the image with its recompressed version to identify signs of multiple compressions.

Histogram

Analysis of the histogram of the image that can help to spot excessive intensity adjustment.

Color Space

Analysis of the color space usage of the image in the HSV and Lab coordinates that can help to spot excessive color adjustment.

PRNU Identification

Creation of a PRNU (sensor noise) reference pattern from a user supplied set of pictures and identification of the device that generated the image by comparison with the reference pattern.

Color Channels

Analysis of single image channels in different color spaces (RGB, YCbCr, YUV, HSV, HLS, XYZ, Lab, Luv, CMYK).

ELA

Identification of spliced areas of the image that have been compressed differently (error level analysis).

DCT Map

Display of the image DCT values that can help to spot tampered uniform areas of the image.

Correlation Map

Identification of discontinuities in the correlation between pixels of the image.

Noise Map

Display of inconsistencies in the noise level of the image.

PRNU Map

Identification of inconsistencies in the PRNU noise of the image.

PRNU Tampering

Automatic identification of tampered areas of the image by comparison with the PRNU reference pattern of the image.

LGA

Identification of luminance discontinuities (luminance gradient analysis).

Clones Blocks

Identification of similar areas of the image that can be the result of cloning.

Clones Keypoints

Identification of groups of similar points in the image that can be the result of cloning.



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