📝 Day 5 — Image & Metadata Analysis (EXIF & Reverse Image)

Goal

- Extract metadata (EXIF) from images.
- Remove metadata to protect privacy.
- Reverse-search images to find duplicates online.
- Check for signs of editing using FotoForensics.

1️⃣ Tools Required

Tool / Service	Purpose	Download / Access
ExifTool	Extract and remove image metadata	ExifTool Windows
Google Images	Reverse image search	Google Images
TinEye	Reverse image search	TinEye
FotoForensics	Detect image editing (ELA)	FotoForensics

2️⃣ Folder Setup (ss folder)

Folder location:

`C:\Users\Nidhi` [redacted]

Contents of folder:

1. **Original images** you want to test (example: `myphoto.jpg`, `photo2.png`).

2. **ExifTool executable + support files**:
    - `exiftool.exe`
    - `exiftool_files` folder (contains DLLs required by ExifTool).
3. Both must be in the same folder for ExifTool to work.
4. Optional: **Cleaned images** (after metadata removal).

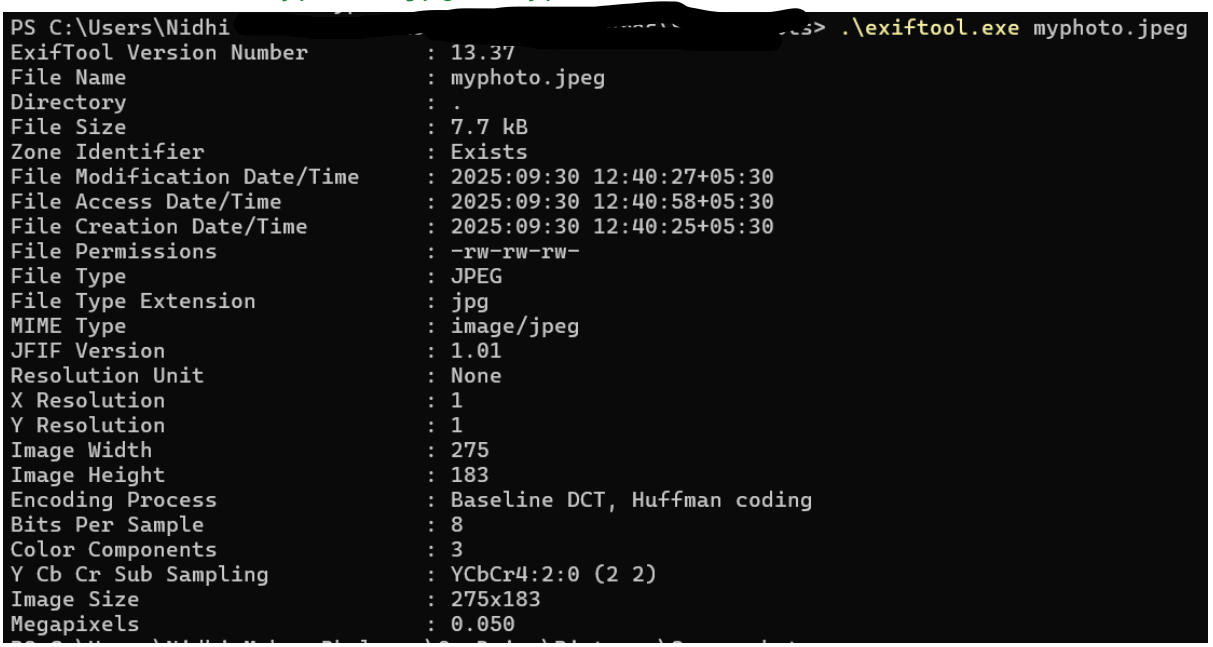
3️⃣ Commands for ExifTool

A. Check metadata

```
.\exiftool.exe myphoto.jpg
```

- Shows camera model, GPS, timestamp, software, etc.
- Output can be saved to a file:

```
.\exiftool.exe myphoto.jpg > myphoto_exif.txt
```



B. Remove all metadata (create cleaned version)

```
.\exiftool.exe -all= -o cleaned.jpg myphoto.jpg
```

- `-all=` → remove all EXIF metadata
- `-o cleaned.jpg` → save as a new file, original untouched
- Confirm metadata removal:

```
.\exiftool.exe cleaned.jpg
```

C. Optional: Remove metadata from multiple images

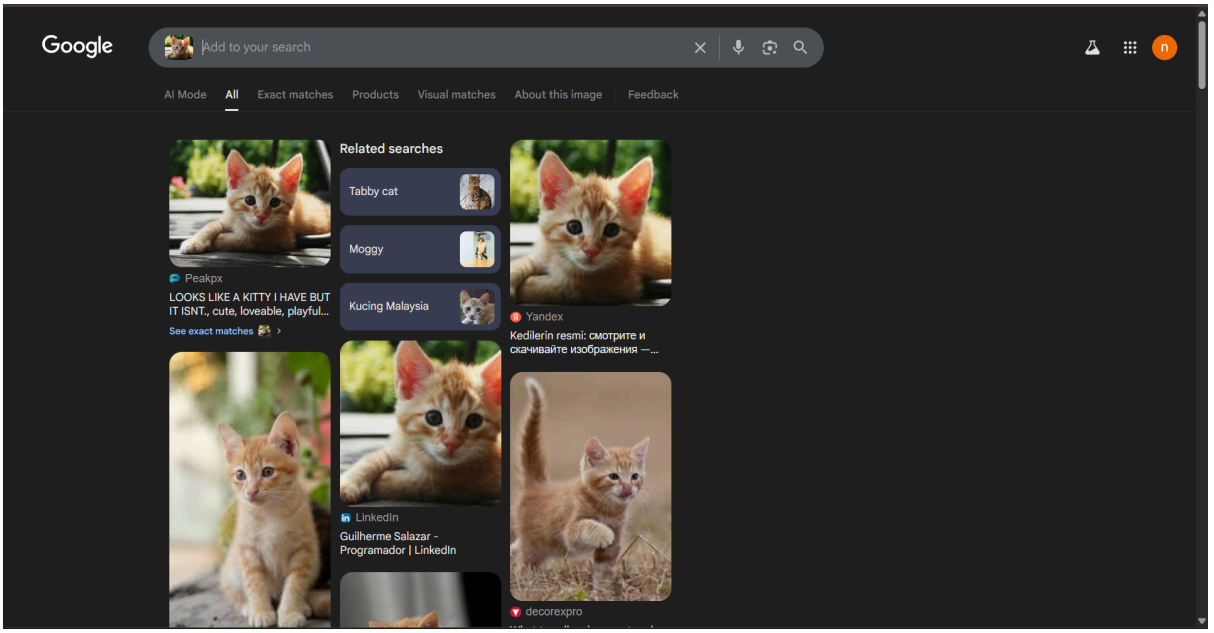
```
.\exiftool.exe -all= -overwrite_original *.jpg
```

- Removes EXIF from all JPG images in folder.
- Use only if you don't need the originals.

4️⃣ Reverse Image Search

A. Google Images

1. Go to Google Images.
2. Click **camera icon** → Upload image (`myphoto.jpg` or `cleaned.jpg`).
3. Check where the image appears online and note results.



B. TinEye

1. Go to TinEye.
2. Upload your image.
3. Record websites, duplicates, and reposts.

Tip: Reverse-search usually doesn't change with metadata removal.

5️⃣ FotoForensics (ELA — Error Level Analysis)

1. Go to FotoForensics.
2. Upload an image.
3. Observe the ELA map:
    - Uniform compression → likely unedited
    - High contrast in areas → possible editing
4. Save screenshots of ELA results.

fotoforensics.com

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FotoForensics

Submit a picture for Forensic Analysis

Image URL: https:// Upload URL

or

Upload File: Choose File cleaned.jpeg Upload File

See the FAQ for submission guidelines. See the tutorials for analysis instructions.

Unique images: 8,267,217
Banned users: 10,578
Statistics last updated 25 minutes ago

fotoforensics.com/analysis.php?id=875e60df666ffe3183b730d0348369b55f9ed874.7727

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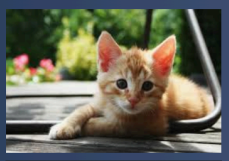
FotoForensics

Analysis:

- Digest
- ELA
- Games
- Hidden Pixels
- ICC+
- JPEG %
- Metadata
- Strings
- Source



URL to this page: [Direct Link] [Annotated]
View: [Uploaded Source Image]
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What does this picture mean? See the tutorials for an explanation.