Librarie TIS

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1 applyLUT

```
Applies LUT to an image

Parameters:
-----------
    f   : image
    lut : lookup table
Returns:
-----------
    new image
```

2 computeCumulativeHisto

```
Computes cumulative histogram from base histrogram

Parameters:
-----------
    h : histogram

Returns:
--------
    cumulative histogram,
    cumulative normalized histogram
```

3 find_nearest

```
Finds element in array closest to specified value

Parameters:
-----------
array : data
value : value to search for

Returns:
--------
idx : element index
val : value
```

4 halfToning

```
Applies halftoning algorithm to f and returns the results as 2D array

Parameters:
----------
    img : image
Returns:
-------
    h : new image
```

5 imgLevelAdjust

```
Adjusts image's contrast
Parameters:
-----------
    f     : image
    _mini : lower percentage limit (default 1)
    _maxi : higher percentage limit (default 99)

Returns:
--------
    H : adjusted image
```

6 showHistogram

```
Displays histograms and its cumulative
Parameters:
-----------
h : histogram

Returns:
--------
fig : figure
axs : axis
```

7 showImage

```
Displays an Image (grayscale or RGB)

Parameters:
-----------
Image        : Image array (HxW or HxWx3)
width        : Displayed image width (default 10)
showGrid     : display grid (default true)
HLines       : array of vertical positions to highlight pixels
VLines       : array of horizontal positions to highlight pixels
w_label_step : width labels step
h_label_step : height label step
grid_step    : grid step
title        : figure title (default none)
colorMap     : colormap to apply (default gray when grey scale, ignored when RGB)
Max          : pixel max (default to 255 or 1 depending of data)
Min          : pixel min (default 0)
saveto       : path to save figure

Returns:
--------
figure, ax (matplotlib)
```