

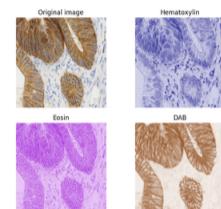
**Docs for 0.14dev**  
[All versions](#)

## General examples

General-purpose and introductory examples for scikit-image.

The [narrative documentation](#) introduces conventions and basic image manipulations.

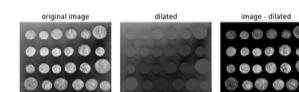
## Manipulating exposure and color channels



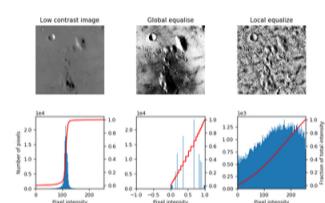
Immunohistochemical staining colors separation



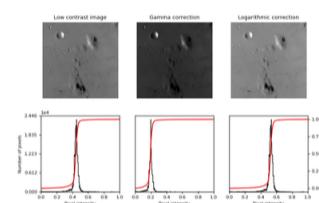
Adapting gray-scale filters to RGB images



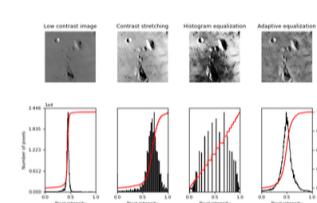
Filtering regional maxima



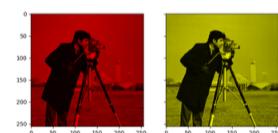
Local Histogram Equalization



Gamma and log contrast adjustment

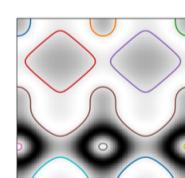


Histogram Equalization

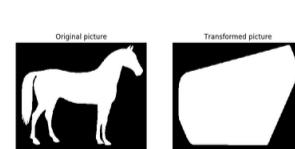


Tinting gray-scale images

## Edges and lines



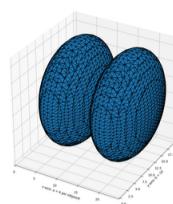
Contour finding



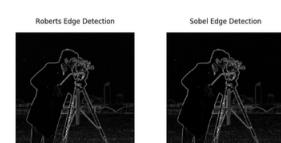
Convex Hull



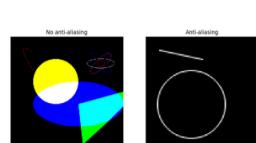
Canny edge detector



Marching Cubes



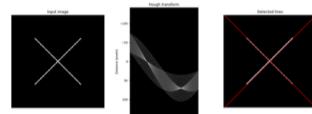
Edge operators



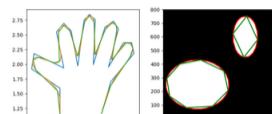
Shapes



Active Contour Model



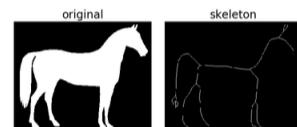
Straight line Hough transform



Approximate and subdivide polygons

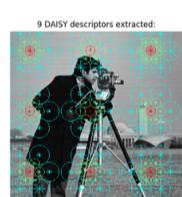


Circular and Elliptical Hough Transforms



Skeletonize

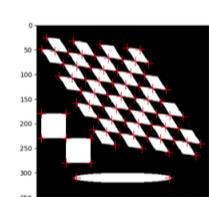
## Detection of features and objects



Dense DAISY feature description



Histogram of Oriented Gradients



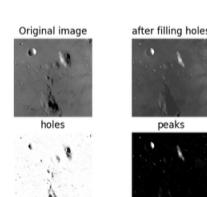
Corner detection



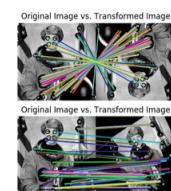
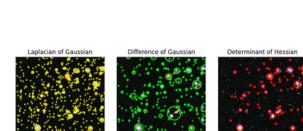
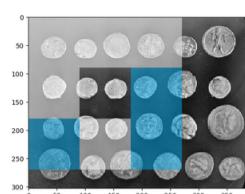
CENSURE feature detector



Template Matching



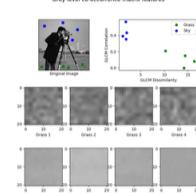
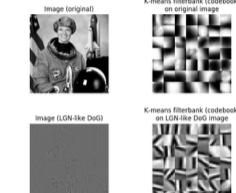
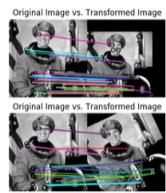
Filling holes and finding peaks



**Multi-Block Local Binary Pattern for texture classification**

**Blob Detection**

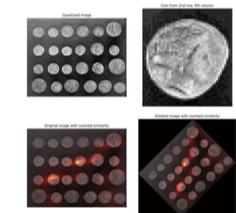
**ORB feature detector and binary descriptor**



**BRIEF binary descriptor**

**Gabors / Primary Visual Cortex "Simple Cells" from an Image**

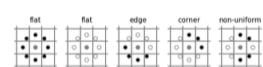
**GLCM Texture Features**



**Shape Index**

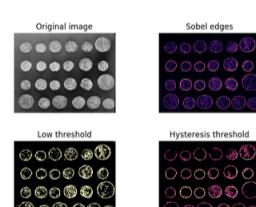
**Sliding window histogram**

**Gabor filter banks for texture classification**



**Local Binary Pattern for texture classification**

## Filtering and restoration



**Frangi filter**

**Non-local means denoising for preserving textures**

**Hysteresis thresholding**

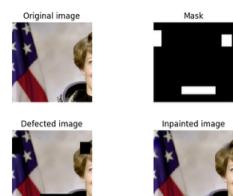
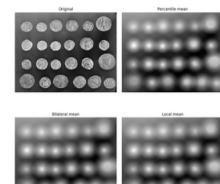
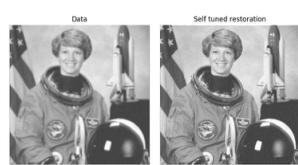


Image Deconvolution

Mean filters

Inpainting

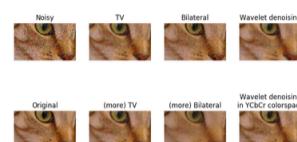
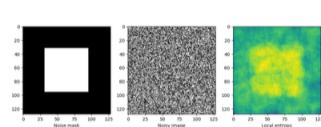
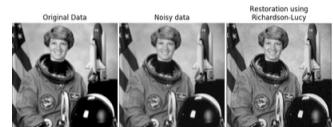
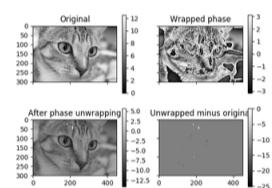


Image Deconvolution

Entropy

Denoising a picture



Phase Unwrapping

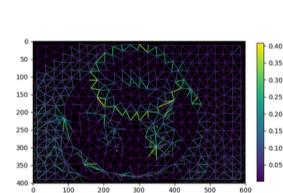
## Operations on NumPy arrays



Using simple NumPy operations for manipulating images

Block views on images/arrays

## Segmentation of objects



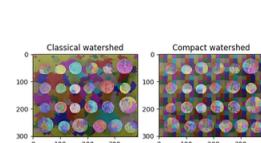
Region Boundary based RAGs



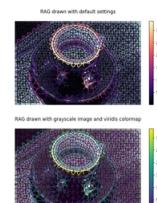
Normalized Cut



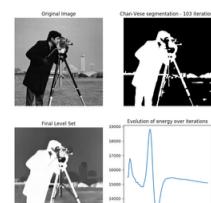
RAG Thresholding



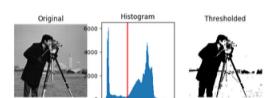
**Find Regular Segments Using Compact Watershed**



**Drawing Region Adjacency Graphs (RAGs)**



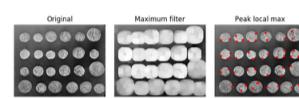
**Chan-Vese Segmentation**



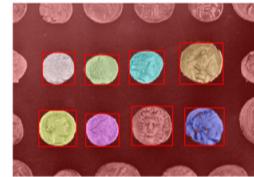
**Thresholding**



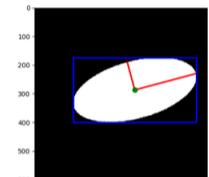
**Niblack and Sauvola Thresholding**



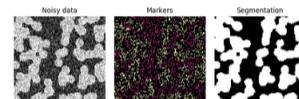
**Finding local maxima**



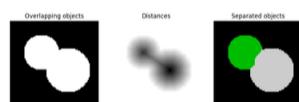
**Label image regions**



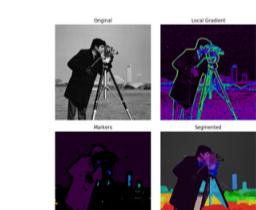
**Measure region properties**



**Random walker segmentation**



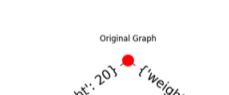
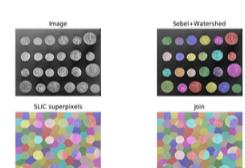
**Watershed segmentation**



**Markers for watershed transform**



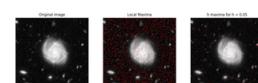
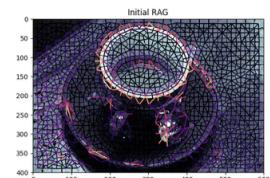
**Comparison of segmentation and superpixel algorithms**



**Find the intersection of two segmentations**



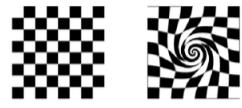
**Region Adjacency Graphs**



Hierarchical Merging  
of Region Boundary  
RAGs

Extrema

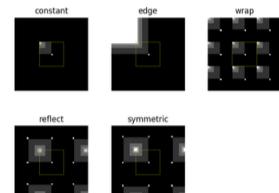
## Geometrical transformations and registration



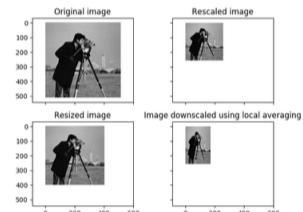
Swirl



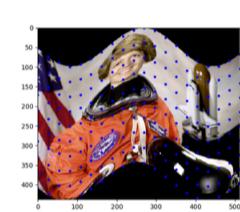
Build image pyramids



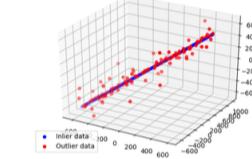
Interpolation: Edge  
Modes



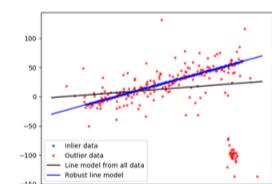
Rescale, resize, and  
downscale



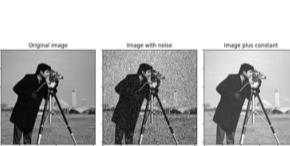
Piecewise Affine  
Transformation



Robust 3D line model  
estimation using  
RANSAC

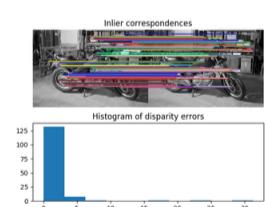


Seam Carving



Robust line model  
estimation using  
RANSAC

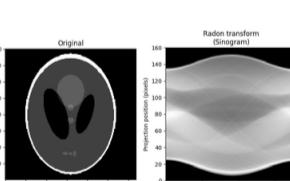
Structural similarity  
index



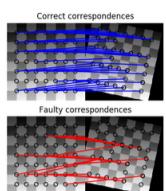
Fundamental matrix  
estimation



Cross-Correlation  
(Phase Correlation)

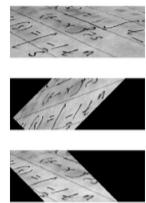


Radon transform

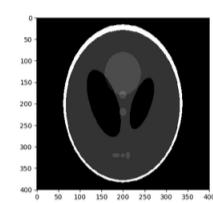


Robust matching  
using RANSAC

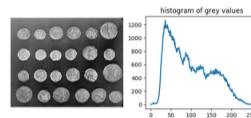
## Longer examples and demonstrations



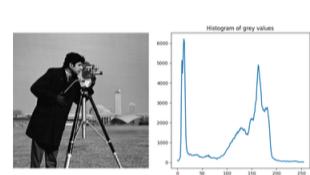
Using geometric  
transformations



Morphological  
Filtering



Comparing  
edge-based and  
region-based  
segmentation



Thresholding

Rank filters

Download all examples in Python source  
code: [auto\\_examples\\_python.zip](#)

Download all examples in Jupyter  
notebooks: [auto\\_examples\\_jupyter.zip](#)

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