

Images and vision in python

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Common?

Specialist?

Creation

PIL
pypng

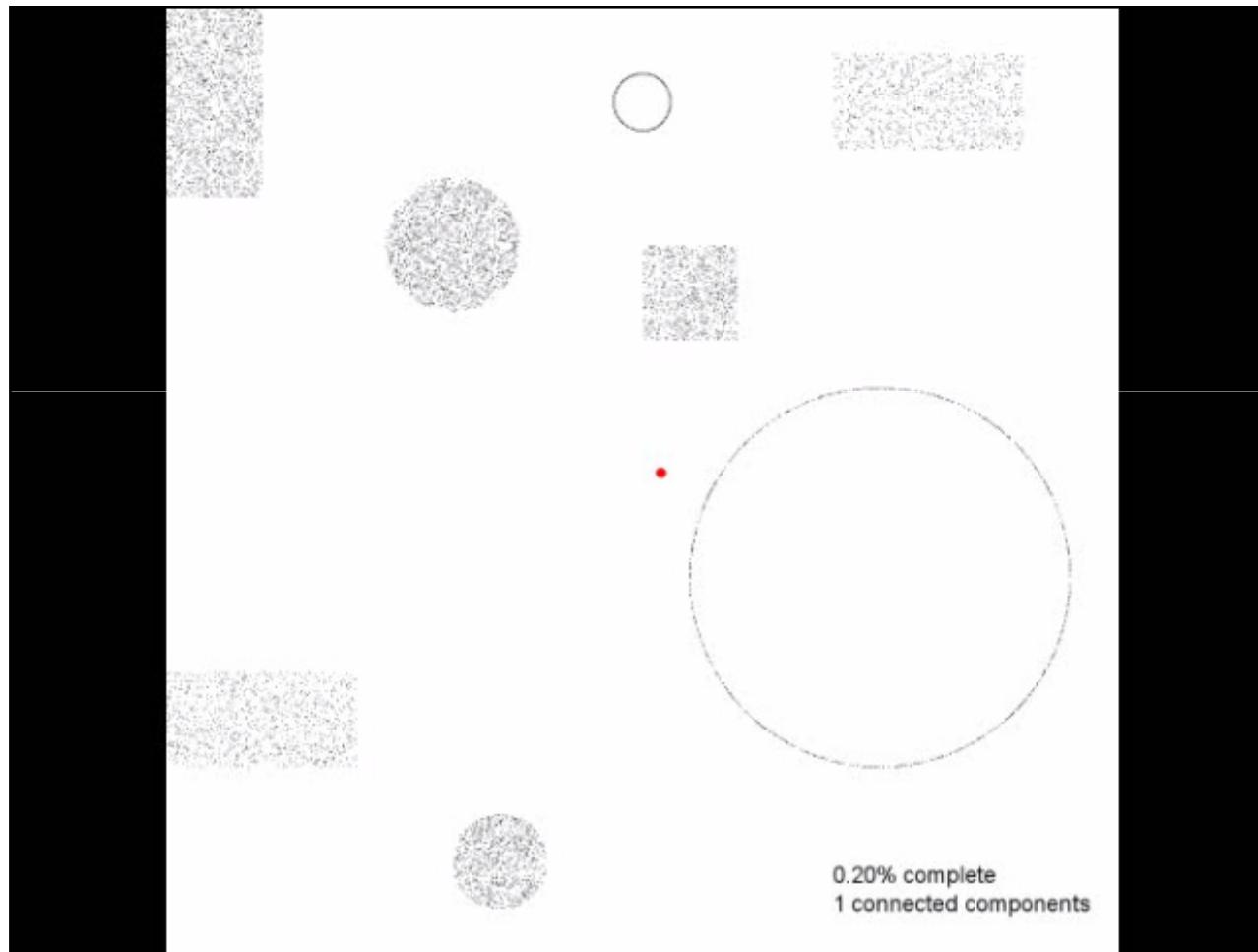
Analysis

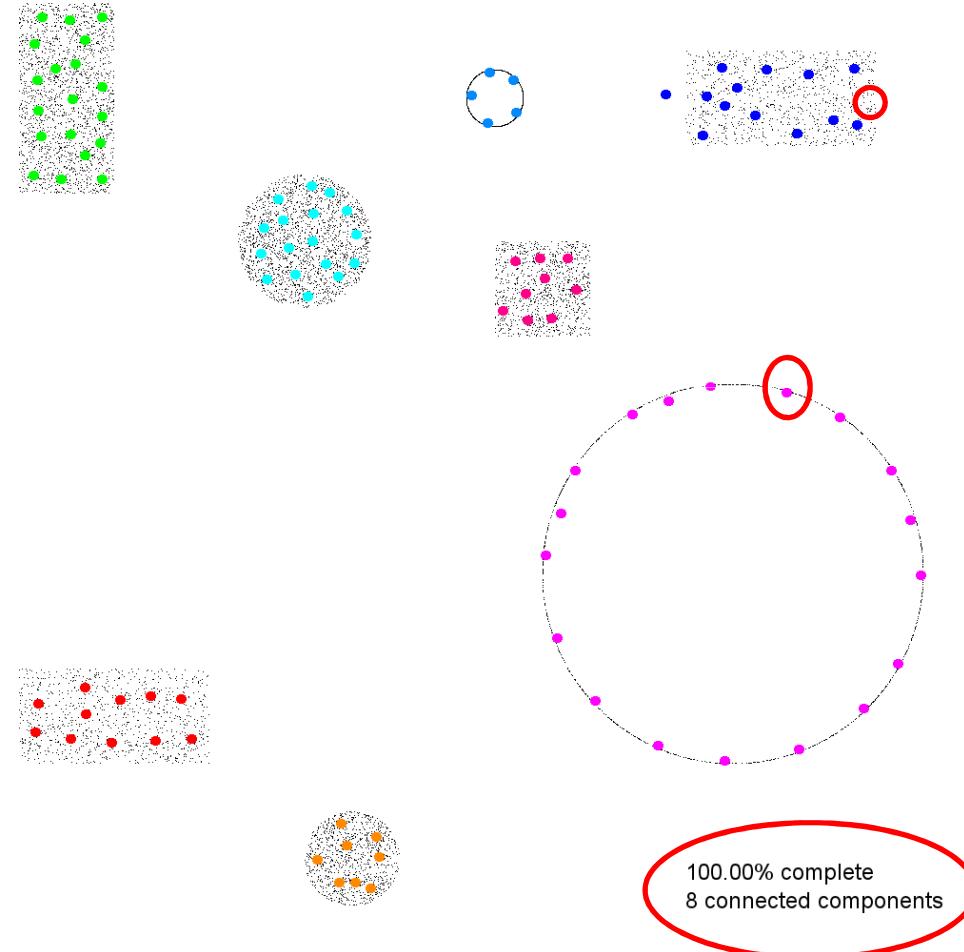
Scipy.ndimage
Mahotas
pymorph

PIL

- Reading/writing/converting image files
- Filters/Enhancements
- Likely uses creating thumbnails, drawing graphs etc.

Growing neural gas visualisation





Demo

- Image creation
- Drawing
- Text
- Viewing/saving the image

Windows Gotchas

- Image preview
- Truetype font support
 - <http://www.lfd.uci.edu/~gohlke/pythonlibs/>

Vision

Extracting information from
images

Ndimage

- Part of scipy
- ~80 different functions
- Convenience functions
- Filters
- Interpolation
- Measurements
- Morphology

Mahotas

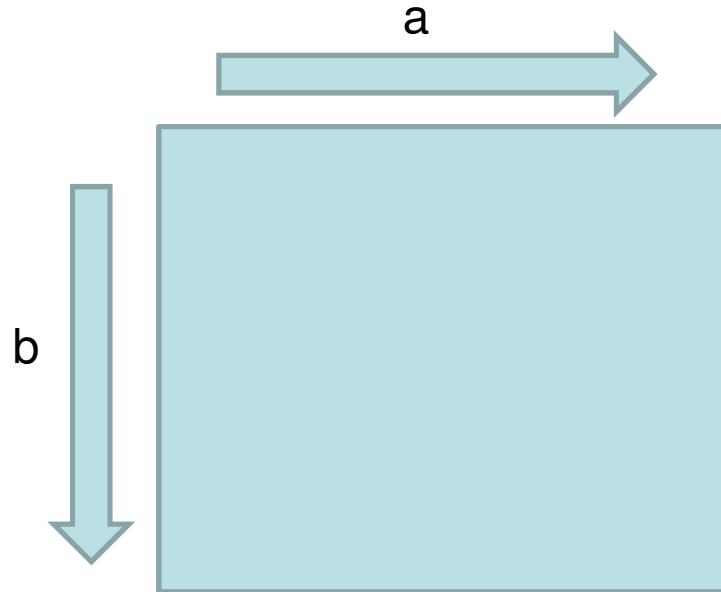
- Partly implemented in C++ for speed
- ~40 functions
- Feature detection
- Thresholding
- Transforms

Mahotas

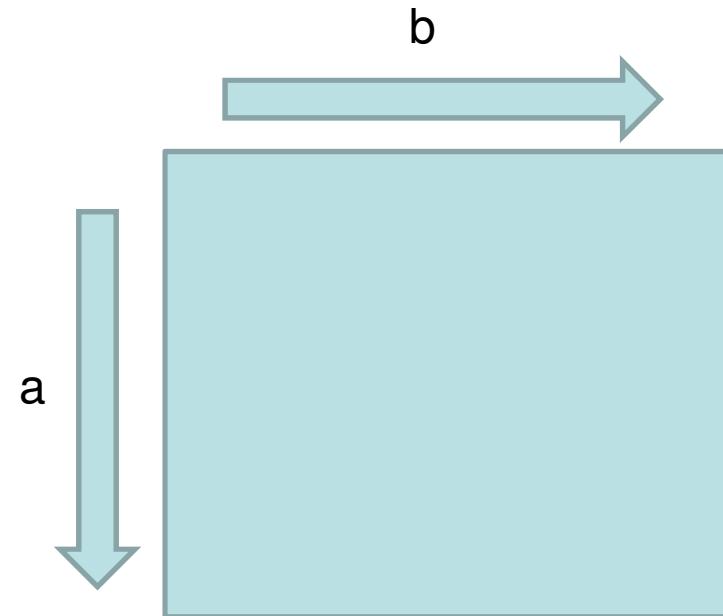
- bbox
- bwperim
- center_of_mass
- close_holes
- convolve
- croptobbox
- cwatershed
- dilate
- distance
- edge
- erode
- euler
- features
- freeimage
- fullhistogram
- get_structuring_elem
- histogram
- imread
- imresize
- imsave
- lbp
- majority_filter
- moments
- morph
- otsu
- rc
- resize
- segmentation
- sobel
- stretch
- tas
- texture
- thin
- thresholding
- zernike

PIL <-> Numpy array

PIL[a,b]



Numpy array[a,b]



Open Plaques Transcription

“Open Plaques is a service that aims to find and provide data about all the commemorative 'plaques' (often blue and round) that can be found across the UK and worldwide.”







Sir
MICHAEL
BALCON
1896 - 1977

Film Producer
worked here
1938 - 1956

Links

- <http://packages.python.org/mahotas>
- <http://packages.python.org/pymorph>
- <http://docs.scipy.org/doc/scipy/reference/nimage.html>
- <http://www.pythonware.com/products/pil/>
- <http://pythonvision.org/>