Appendix A
Java Code References

All’s well that ends
Arthur Bloch–Murphy’ Law

In this Appendix we report some plugins that are available online for image processing tasks. Reference URLs are listed below.

Chapter 2:

- The Imagej plugin implementing the histogram of each component RGB of a color image is available at: http://rsb.info.nih.gov/ij/plugins/color-histogram.html
- The Imagej plugin implementing the Canny algorithm is available at: http://rsbweb.nih.gov/ij/plugins/canny/index.html

Chapter 7:

- The Imagej plugin implementing the K-means algorithm for image segmentation is available at: http://ij-plugins.sourceforge.net/plugins/segmentation/k-means.html
- The Imagej plugin implementing the Hough transform for detecting circles of various radius is available at: http://rsb.info.nih.gov/ij/plugins/hough-circles.html
- The SFCM ImageJ plugin implementing K-means, FCM and SFCM clustering is available at: https://github.com/arranger1044/SFCM. More information can be found at: https://sites.google.com/site/cilabuniba/research/sfcm. The web page is shown in Figs. A.1 and A.2.

Chapter 8:

- The ImageJ plugin implementing the Otzu thresholding method is available at: http://rsb.info.nih.gov/ij/plugins/otsu-thresholding.html/
- The ImageJ plugin implementing some thresholding methods is available at: http://imagej.net/Auto_Threshold/
Fig. A.1 The web page describing the SFCM plugin

Chapter 9:

- The ImageJ plugin implementing the morphological operators is available at: http://sites.imagej.net/Landini/
Fig. A.2  SFCM plugin configuration

Download:
https://github.com/arranger1044/SFCM

Antonio Vergari, Francesco Tangari – SFCM plugin for ImageJ

ImageJ Plugins Page | https://sites.google.com/site/cilabun
Index

A
Applet, 71

B
Biological image segmentation, 113

C
Canny operator, 34
Class, 66
Color contrast enhancement, 85
Color image representation, 10
Color model, 5
Color segmentation, 99
Connectivity, 94
Contrast enhancement, 18
Convolution product, 29
Crisp clustering, 96

D
Defuzzification, 44
Document image analysis, 127

E
Edge detection, 30

F
Fuzzification, 43
Fuzzy c-means clustering, 97

G
Gaussian function, 34
Gradient operator, 32
Gray level, 3
Gray-level contrast enhancement, 88
Gray-level transformation, 20

H
Histogram equalization, 28
Histogram transformation, 27
Hough transform, 130
HSI color model, 8
HSV/HSB color model, 6
Huang method, 127

I
Image defuzzification, 59
Image fuzzification, 55

© The Author(s) 2017
L. Caponetti and G. Castellano, Fuzzy Logic for Image Processing,
SpringerBriefs in Electrical and Computer Engineering,
DOI 10.1007/978-3-319-44130-6
Index

ImageJ, 74
Image segmentation, 93
Image thresholding, 121

K
K-means clustering, 96

L
Laplacian of a Gaussian (LoG), 33
Laplacian operator, 33

M
Membership function, 41, 54
Methods, 66
Morphological operators, 108
Multichannel image processing, 86

N
Natural image enhancement, 88
Neuro-fuzzy classifier, 130
Neuro-fuzzy model, 48

O
Object-Oriented programming, 65
Optimization based operators, 36
Otzu method, 122

P
Pixel, 3
Pixel neighbors, 94

R
Region growing, 95
RGB color model, 6

S
Smoothing, 28
Spatial fuzzy c-means clustering, 98

T
Texture segmentation, 101
Thresholding, 27