Package 'image.Otsu'

May 8, 2026

Type Package

Title Otsu's Image Segmentation Method

Description An implementation of the Otsu's Image Segmentation Method described in the paper: ``A C++ Implementation of Otsu's Image Segmentation Method''. The algorithm is explained at <doi:10.5201/ipol.2016.158>.

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Version 0.1.1

URL https://github.com/bnosac/image

Imports Rcpp (>= 0.12.8)

LinkingTo Rcpp

Suggests magick

RoxygenNote 7.1.2

NeedsCompilation yes

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image_otsu *Image segmentation using Otsu*

Description

An implementation of the Otsu's image segmentation algorithm explained at doi:10.5201/ipol.2016.158.

Usage

```
image_otsu(x, threshold = 0)
```

Arguments

x	an object of class magick-image or a greyscale matrix of image pixel values in the 0-255 range
threshold	integer value in range of 0-255. To override the threshold. Defaults to 0 indicating not to override the threshold.

Value

In case x is a matrix, a list with elements x (containing the thresholded image) and threshold is returned
In case x is a magick-image, the thresholded magick-image is returned alongside which also now has an attribute called threshold with the exact Otsu threshold value

Examples

```
library(magick)
path <- system.file(package="image.Otsu", "extdata", "coins.jpeg")
x    <- image_read(path)
x
img  <- image_otsu(x)
img
attr(img, "threshold")
img  <- image_otsu(x, threshold = 180)
img

img  <- image_data(x, channels = "gray")
img  <- as.integer(img, transpose = TRUE)
img  <- img[, , 1]
img  <- image_otsu(img)
str(img)
```

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