Package 'image.CornerDetectionF9'

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Type Package

Title Find Corners in Digital Images with FAST-9

Version 0.1.1

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Description An implementation of the ``FAST-9'' corner detection algorithm explained in the paper 'FASTER and better: A machine learning approach to corner detection' by Rosten E., Porter R. and Drummond T. (2008), available at <doi:10.48550/arXiv.0810.2434>. The package allows to detect corners in digital images.

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

Imports Rcpp (>= 0.12.8)

Suggests pixmap, magick

LinkingTo Rcpp

RoxygenNote 7.3.2

NeedsCompilation yes

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`image.CornerDetectionF9-package` *Find Corners in Digital Images with FAST-9.*

Description

An implementation of the "FAST-9" corner detection algorithm explained at <http://www.edwardrosten.com/work/fast.html>. The package allows to detect corners in digital images.

See Also

image_detect_corners

`image_detect_corners` *Find Corners in Digital Images with FAST-9.*

Description

An implementation of the "FAST-9" corner detection algorithm explained at <http://www.edwardrosten.com/work/fast.html>.

Usage

```
image_detect_corners(x, threshold = 50L, suppress_non_max = FALSE)
```

Arguments

`x`	a matrix of image pixel values in the 0-255 range.
`threshold`	positive integer where threshold is the threshold below which differences in luminosity between adjacent pixels are ignored. Think of it as a smoothing parameter.
`suppress_non_max`	logical

Value

as list of the found corners with the x/y locations

Examples

```
library(pixmap)
imagelocation <- system.file("extdata", "chairs.pgm", package="image.CornerDetectionF9")
image   <- read.pnm(file = imagelocation, cellres = 1)
x       <- image@grey * 255
corners <- image_detect_corners(x, 80)
plot(image)
points(corners$x, corners$y, col = "red", pch = 20, lwd = 0.5)
```

```
##
## image_detect_corners expects a matrix as input
##  if you have a jpg/png/... convert it to pgm first or take the r/g/b channel
library(magick)
x <- image_read(system.file("extdata", "hall.jpg", package="image.CornerDetectionF9"))
x
image   <- image_data(x, channels = "Gray")
image   <- as.integer(image, transpose = TRUE)
image   <- drop(image)
corners <- image_detect_corners(image, threshold = 80)

plt <- image_draw(x)
points(corners$x, image_info(x)$height - corners$y, col = "red", pch = 20, lwd = 0.5)
dev.off()
plt


## same but now converting to portable grey mab
f <- tempfile(fileext = ".pgm")
library(magick)
x <- image_read(system.file("extdata", "hall.jpg", package="image.CornerDetectionF9"))
x <- image_convert(x, format = "pgm", depth = 8)
image_write(x, path = f, format = "pgm")

image   <- read.pnm(f, cellres = 1)
corners <- image_detect_corners(image@grey * 255, 80)
plot(image)
points(corners$x, corners$y, col = "red", pch = 20, lwd = 0.5)

file.remove(f)
```

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