

Package ‘sketcher’

May 25, 2020

Title Pencil Sketch Effect

Version 0.1.3

Description

An implementation of image processing effects that convert a photo into a line drawing image. For details, please refer to Tsuda, H. (2020). sketcher: An R package for converting a photo into a sketch style image. <doi:10.31234/osf.io/svmw5>.

URL <https://htsuda.net/sketcher/>

BugReports <https://github.com/tsuda16k/sketcher/issues/>

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

Imports jpeg, png, readbitmap, downloader, imager, magrittr, methods, stringr, dplyr

Depends R (>= 2.10)

Suggests knitr, rmarkdown

NeedsCompilation no

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face	<i>A face image.</i>
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Description

A photograph obtained from a free stock photos site. pexels.com/photo/man-about-to-touch-his-face-wearing-blue-suit-718261/

Usage

```
face
```

Format

An array with 600 x 460 * 3 dimensions. Each dimension represents y-coordinate, x-coordinate, and color channel.

Examples

```
plot(face)
```

im_load	<i>Load image from file or URL</i>
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Description

Load image from file or URL

Usage

```
im_load(file, name)
```

Arguments

file	path to file or URL
name	a string for name attribute. if missing, inferred from the file argument.

Value

an array of image data

Examples

```
## Not run:  
# load an image from disk  
im = im_load("path/to/your/image.jpg")  
plot(im)  
# load an image from URL  
im = im_load("http://placeholder.jp/150x150.png")  
  
## End(Not run)
```

im_save	<i>Save an image to disk</i>
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Description

Save an image to disk

Usage

```
im_save(im, name, path, format = "png", quality = 0.95)
```

Arguments

im	An image.
name	Name of the image file.
path	Path to file.
format	Image format. Either "jpg", "png", "tiff", or "bmp". Default is "png".
quality	(jpg only) default is 0.95. Higher quality means less compression.

Value

No return value, called for side effects.

Examples

```
## Not run:  
im = sketch(face)  
  
# im.png is saved to the current working directory  
im_save( im, name = "im", path = getwd() )  
  
# myimage.jpg is saved to a specified directory  
im_save( im, name = "myimage", path = "path/to/image", format = "jpg" )  
  
## End(Not run)
```

plot.nimg	<i>Display an image</i>
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Description

Display an image

Usage

```
## S3 method for class 'nimg'  
plot(x, rescale = FALSE, ...)
```

Arguments

x	an image
rescale	logical. if true, then pixel value is rescaled to range between 0 and 1.
...	other parameters to be passed to plot.default

Value

No return value, called for side effects.

Examples

```
plot(face)
```

sketch	<i>Apply the sketch effect on an image</i>
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Description

Apply the sketch effect on an image

Usage

```
sketch(  
  im,  
  style = 1,  
  lineweight = 1,  
  smooth = ceiling(lineweight),  
  gain = 0.02,  
  contrast = NULL,  
  shadow = 0,  
  max.size = 2048  
)
```

Arguments

<code>im</code>	an image (array).
<code>style</code>	a numeric (integer). Either 1 or 2.
<code>lineweight</code>	a numeric. Strength of lines.
<code>smooth</code>	a numeric (integer). Smoothness of image texture.
<code>gain</code>	a numeric between 0 and 1. Can be used to reduce noise in dim regions.
<code>contrast</code>	a numeric (integer). Adjusts the image contrast.
<code>shadow</code>	a numeric between 0 and 1
<code>max.size</code>	maximum image resolution (width or height) of the output image

Value

an image.

Examples

```
im = sketch(face)
plot(im)

## Not run:
im = im_load("path/to/your/image.jpg")
plot(im)

## End(Not run)
```

survey

Create multiple sketches at once and combine them into a single image

Description

It is often necessary to find optimal sketch style parameters for your task. With this function, you can easily compare the effects of different style parameters.

Usage

```
survey(
  im,
  style = 1,
  weight_levels = c(1, 2, 4),
  smooth_levels = c(1, 2, 4),
  gain = 0.02,
  contrast = NULL,
  shadow = 0,
  verbose = TRUE
)
```

Arguments

<code>im</code>	an image.
<code>style</code>	numeric (integer). Either 1 (edge-focused) or 2 (smooth gradient)
<code>weight_levels</code>	numeric (integer). a vector of lineweight values
<code>smooth_levels</code>	numeric (integer). a vector of smooth values
<code>gain</code>	a numeric between 0 and 1. Can be used to reduce noise in dim regions.
<code>contrast</code>	numeric (integer). Adjusts the image contrast.
<code>shadow</code>	a numeric between 0 and 1
<code>verbose</code>	If TRUE (default), progress information is displayed in the Console.

Value

an array of the sketched image.

Examples

```
im = survey(face, style = 1, weight_levels = c(1, 3), smooth_levels = c(1, 3), shadow = 0.3)
plot(im)
```

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