Package ‘imgrec’

July 12, 2019

Type Package

Title Image Recognition

Version 0.1.0

Date 2019-07-05

URL `https://github.com/cschwem2er/imgrec`

BugReports `https://github.com/cschwem2er/imgrec/issues`

Description Provides an interface for image recognition using the 'Google Vision API' <https://cloud.google.com/vision/> . Converts API data for features such as object detection and optical character recognition to data frames. The package also includes functions for analyzing image annotations.

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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Imports knitr (>= 1.2.0), base64enc (>= 0.1.0), dplyr (>= 0.7.0), httr (>= 1.4.0), jsonlite (>= 1.6.0), rlang (>= 0.4.0)

Suggests magick (>= 2.0.0), ggplot2 (>= 3.2.0), usethis (>= 1.5.0), pillar (>= 1.4.0), rmarkdown (>= 1.1.0)

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

Date/Publication 2019-07-12 15:50:06 UTC

R topics documented:

`get_annotations` *get image annotations*

Description

Calls the 'Google Vision' API to return annotations. The function automatically creates batches

Usage

```
get_annotations(images, features, max_res, mode)
```

Arguments

`images` A character vector for images to be annotated. Can either be url strings or local images, as specified with `mode`.

`features` A character vector for the features to be returned. Accepts `'all'` or any combination of the following inputs: `'label'`, `'web'`, `'text'`, `'face'`, `'landmark'`, `'logo'`, `'safe_sea`

`max_res` An integer specifying the maximum number of results to be returned for each feature.

`mode` Accepts `'url'` for image urls and `'local'` for file paths to local images.

Value

An response object of class `'gvision_annotations'`.

See Also

Google Vision features and quotas.

Examples

```
gvision_init()

# one image url
sw_image <- 'https://upload.wikimedia.org/wikipedia/en/4/40/Star_Wars_Phantom_Menace_poster.jpg'
results <- get_annotations(images = sw_image, # image character vector
                           features = 'all', # request all available features
                           max_res = 10, # maximum number of results per feature
                           mode = 'url')  # maximum number of results per feature

# multiple image urls
finn_image <- 'https://upload.wikimedia.org/wikipedia/en/2/2a/Finn-Force_Awakens_%282015%29.png'
padme_image <- 'https://upload.wikimedia.org/wikipedia/en/e/ee/Amidala.png'

input_imgs <- c(sw_image, finn_image, padme_image)
```

```
results <- get_annotations(images = input_imgs,
          features = c('label', 'face'), max_res = 5, mode = 'url')

# one local image
temp_img_path <- tempfile(fileext = '.png')
download.file(finn_image, temp_img_path, mode = 'wb', quiet = TRUE)

results <- get_annotations(images = temp_img_path,
          features = c('label', 'face'), max_res = 5, mode = 'local')
```

`gvision_init` *authorization for Google Vision*

Description

Initializes the authorization credentials for the ’Google Vision’ API. Needs to be called before using any other functions of `imgrec` and requires `gvision_key` as environment variable.

Usage

```
gvision_init()
```

Value

nothing.

Examples

```
## Not run:
Sys.setenv(gvision_key = "Your Google Vision API key")

gvision_init()

## End(Not run)
```

parse_annotations *parse image annotations*

Description

Parses the annotations and converts most of the features to data frames. Also stores the corresponding image identifiers for each feature as 'img_id'

Usage

```
parse_annotations(annotations)
```

Arguments

annotations	An annotation object created with get_annotations.

Value

A list containing data frames for each feature:

labels label annotations

web_labels web label annotations

web_similar similar web images

web_match_partial partial matching web images

web_match_full full matching web images

web_match_pages matching web pages

faces face annotations

objects object annotations

logos logo annotations

landmarks landmark annotations

full_text full text annotation

safe_serarch safe search annotation

colors dominant color annotations

crop_hints crop hints for ratios 0.8/1.0/1.2

Examples

```
## Not run:
# initialize api credentials
gvision_init()

# annotate images
finn_image <- 'https://upload.wikimedia.org/wikipedia/en/2/2a/Finn-Force_Awakens_%282015%29.png'
sw_image <- 'https://upload.wikimedia.org/wikipedia/en/8/82/Leiadeathstar.jpg'
```

```
padme_image <- 'https://upload.wikimedia.org/wikipedia/en/e/ee/Amidala.png'

results <- get_annotations(images = c(finn_image, sw_image, padme_image),
                           features = 'all', max_res = 10, mode = 'url')
# parse annotations
img_data <- parse_annotations(results)

# available feature data frames
names(img_data)

## End(Not run)
```

save_json *ave annotation data as JSON*

Description

Writes raw JSON data as returned by the Google Vision API to a UTF-8 encoded local file.

Usage

```
save_json(annotations, file)
```

Arguments

`annotations`	An annotation object created with `get_annotations`.
`file`	Local path where the JSON data should be stored.

Value

nothing.

Examples

```
## Not run:
 gvision_init()

 finn_image <- 'https://upload.wikimedia.org/wikipedia/en/2/2a/Finn-Force_Awakens_%282015%29.png'
 results <- get_annotations(images = finn_image, features = 'all',
                            max_res = 10, mode = 'url')
 temp_file_path <- tempfile(fileext = '.json')
 save_json(results, temp_file_path)

## End(Not run)
```

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