

# Package: `cpp11tesseract` (via `r-universe`)

October 23, 2024

**Type** Package

**Title** Open Source OCR Engine

**Version** 5.3.3

**Description** Bindings to 'Tesseract': a powerful optical character recognition (OCR) engine that supports over 100 languages. The engine is highly configurable in order to tune the detection algorithms and obtain the best possible results.

**License** Apache License (>= 2)

**URL** <https://pacha.dev/cpp11tesseract/>

**BugReports** <https://github.com/pachadotdev/cpp11tesseract/issues>

**SystemRequirements** Tesseract OCR (deb: tesseract-ocr libtesseract-dev libleptonica-dev, rpm: tesseract-devel leptonica-devel, brew: tesseract).

**Imports** pdftools (>= 1.5), curl, digest

**LinkingTo** cpp11

**RoxygenNote** 7.3.1

**Roxygen** list(markdown = TRUE)

**Suggests** magick (>= 1.7), spelling, knitr, tibble, rmarkdown, testthat (>= 3.0.0)

**Encoding** UTF-8

**VignetteBuilder** knitr

**Language** en-US

**Config/testthat/edition** 3

**Repository** <https://pachadotdev.r-universe.dev>

**RemoteUrl** <https://github.com/pachadotdev/cpp11tesseract>

**RemoteRef** HEAD

**RemoteSha** d4a71010c933b147e3ee55f89d0439d177eb721f

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cpp11tesseract-package  
*Open Source OCR Engine*

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## Description

Bindings to 'Tesseract': a powerful optical character recognition (OCR) engine that supports over 100 languages. The engine is highly configurable in order to tune the detection algorithms and obtain the best possible results.

## Author(s)

**Maintainer:** Mauricio Vargas Sepulveda <m.sepulveda@mail.utoronto.ca> ([ORCID](#))

Authors:

- Jeroen Ooms <jeroen@berkeley.edu> ([ORCID](#))

Other contributors:

- Munk School of Global Affairs and Public Policy [funder]

## See Also

Useful links:

- <https://pacha.dev/cpp11tesseract/>
- Report bugs at <https://github.com/pachadotdev/cpp11tesseract/issues>

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`ocr`*Tesseract OCR*

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### Description

Extract text from an image. Requires that you have training data for the language you are reading. Works best for images with high contrast, little noise and horizontal text. See [tesseract wiki](#) and our package vignette for image preprocessing tips.

### Usage

```
ocr(image, engine = tesseract("eng"), HOCR = FALSE)
```

```
ocr_data(image, engine = tesseract("eng"))
```

### Arguments

<code>image</code>	file path, url, or raw vector to image (png, tiff, jpeg, etc)
<code>engine</code>	a tesseract engine created with <a href="#">tesseract()</a> . Alternatively a language string which will be passed to <a href="#">tesseract()</a> .
<code>HOCR</code>	if TRUE return results as HOCR xml instead of plain text

### Details

The `ocr()` function returns plain text by default, or hOCR text if `hOCR` is set to TRUE. The `ocr_data()` function returns a data frame with a confidence rate and bounding box for each word in the text.

### Value

character vector of text extracted from the image

### References

[Tesseract: Improving Quality](#)

### See Also

Other tesseract: [tesseract\(\)](#), [tesseract\\_download\(\)](#)

### Examples

```
# Simple example
file <- system.file("examples", "testocr.png", package = "cpp11tesseract")
text <- ocr(file)
cat(text)
```

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tesseract

*Tesseract Engine*


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### Description

Create an OCR engine for a given language and control parameters. This can be used by the `ocr` and `ocr_data` functions to recognize text.

### Usage

```
tesseract(
  language = "eng",
  datapath = NULL,
  configs = NULL,
  options = NULL,
  cache = TRUE
)

tesseract_params(filter = "")

tesseract_info()
```

### Arguments

language	string with language for training data. Usually defaults to eng
datapath	path with the training data for this language. Default uses the system library.
configs	character vector with files, each containing one or more parameter values. These config files can exist in the current directory or one of the standard tesseract config files that live in the tessdata directory. See details.
options	a named list with tesseract parameters. See details.
cache	speed things up by caching engines
filter	only list parameters containing a particular string

### Details

Tesseract control parameters can be set either via a named list in the `options` parameter, or in a config file text file which contains the parameter name followed by a space and then the value, one per line. Use `tesseract_params()` to list or find parameters. Note that that some parameters are only supported in certain versions of `libtesseract`, and that invalid parameters can sometimes cause `libtesseract` to crash.

### Value

no return value, called for side effects  
no return value, called for side effects  
list with information about the tesseract engine

## See Also

Other tesseract: [ocr\(\)](#), [tesseract\\_download\(\)](#)

## Examples

```
tesseract_params("debug")
```

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tesseract_download	<i>Tesseract Training Data</i>
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## Description

Helper function to download training data from the official [tessdata](#) repository. On Linux, the fast training data can be installed directly with [yum](#) or [apt-get](#).

Helper function to download training data from the contributed [tessdata\\_contrib](#) repository.

## Usage

```
tesseract_download(  
  lang,  
  datapath = NULL,  
  model = c("fast", "best"),  
  progress = interactive()  
)  
  
tesseract_contributed_download(  
  lang,  
  datapath = NULL,  
  model = c("fast", "best"),  
  progress = interactive()  
)
```

## Arguments

lang	three letter code for language, see <a href="#">tessdata</a> repository.
datapath	destination directory where to download store the file
model	either fast or best is currently supported. The latter downloads more accurate (but slower) trained models for Tesseract 4.0 or higher
progress	print progress while downloading

## Details

Tesseract uses training data to perform OCR. Most systems default to English training data. To improve OCR performance for other languages you can to install the training data from your distribution. For example to install the spanish training data:

- [tesseract-ocr-spa](#) (Debian, Ubuntu)
- [tesseract-langpack-spa](#) (Fedora, EPEL)

On Windows and MacOS you can install languages using the [tesseract\\_download](#) function which downloads training data directly from [github](#) and stores it in a the path on disk given by the TESSDATA\_PREFIX variable.

## Value

no return value, called for side effects

no return value, called for side effects

## References

[tesseract wiki: training data](#)

[tesseract wiki: training data](#)

## See Also

[tesseract\\_download](#)

Other tesseract: [ocr\(\)](#), [tesseract\(\)](#)

Other tesseract: [ocr\(\)](#), [tesseract\(\)](#)

## Examples

```
# download the french training data

tesseract_download("fra", model = "best", datapath = tempdir())

if (any("fra" %in% tesseract_info()$available)) {
  french <- tesseract("fra")
  file <- system.file("examples", "french.png", package = "cpp11tesseract")
  text <- ocr(file, engine = french)
  cat(text)
}
# download the polytonic greek training data

tesseract_contributed_download("grc_hist", model = "best", datapath = tempdir())

if (any("grc_hist" %in% tesseract_info()$available)) {
  greek <- tesseract("grc_hist")
  file <- system.file("examples", "polytonicgreek.png", package = "cpp11tesseract")
  text <- ocr(file, engine = greek)
```

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```
    cat(text)  
}
```

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