

UseR 2020 Workshop: Deep Learning with Keras and TensorFlow

Dr. Shirin Elsinghorst

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Deep Learning With "Keras And TensorFlow"



Instructed By

Dr. Shirin Elsinghorst



8th of October, 2020 | 1pm UTC

■ Meeting Link: <https://Deeplearningr.Eventbrite.Com>

Supported by:



Setting up R and Keras

Installation

R

- Install R or update to latest version (R version 4.0.2)

RStudio

- Install RStudio or update to latest version (Version 1.3.1073)

Keras & TensorFlow

- Install TensorFlow (or update package)
- <https://tensorflow.rstudio.com/installation/>

```
install.packages("tensorflow")  
library(tensorflow)  
install_tensorflow()
```

- Check that it loads.

```
library(tensorflow)
```

The **keras** [R package](#) provides an interface to the Keras machine learning library. It is very easy to install and allows you to combine the power and flexibility of Keras with the advantages of R (visualization, consistent working environment with R Studio and consistent layout with R Markdown).

- Load the library

```
library(keras)  
  
# check if keras is available  
is_keras_available()
```

- If that doesn't work, install Keras

```
install.packages("keras")
install_keras()
```

Daten

Download the [Fruits 360 dataset](#): A dataset of images containing fruits and vegetables from Kaggle.

You are all set!

```
devtools::session_info()
```

```
## - Session info -
## setting value
## version R version 4.0.2 (2020-06-22)
## os      macOS Catalina 10.15.6
## system  x86_64, darwin17.0
## ui      X11
## language (EN)
## collate en_US.UTF-8
## ctype   en_US.UTF-8
## tz      Europe/Berlin
## date    2020-09-30
##
## - Packages -
```

## package	* version	date	lib	source
## assertthat	0.2.1	2019-03-21	[1]	CRAN (R 4.0.0)
## backports	1.1.10	2020-09-15	[1]	CRAN (R 4.0.2)
## callr	3.4.4	2020-09-07	[1]	CRAN (R 4.0.2)
## cli	2.0.2	2020-02-28	[1]	CRAN (R 4.0.0)
## crayon	1.3.4	2017-09-16	[1]	CRAN (R 4.0.0)
## desc	1.2.0	2018-05-01	[1]	CRAN (R 4.0.0)
## devtools	2.3.2	2020-09-18	[1]	CRAN (R 4.0.2)
## digest	0.6.25	2020-02-23	[1]	CRAN (R 4.0.0)
## ellipsis	0.3.1	2020-05-15	[1]	CRAN (R 4.0.0)
## evaluate	0.14	2019-05-28	[1]	CRAN (R 4.0.1)
## fansi	0.4.1	2020-01-08	[1]	CRAN (R 4.0.0)
## fs	1.5.0	2020-07-31	[1]	CRAN (R 4.0.2)
## glue	1.4.2	2020-08-27	[1]	CRAN (R 4.0.2)
## htmltools	0.5.0	2020-06-16	[1]	CRAN (R 4.0.2)

```
## jsonlite      1.7.1      2020-09-07 [1] CRAN (R 4.0.2)
## knitr         1.30      2020-09-22 [1] CRAN (R 4.0.2)
## lattice       0.20-41    2020-04-02 [1] CRAN (R 4.0.2)
## magrittr      1.5       2014-11-22 [1] CRAN (R 4.0.0)
## Matrix        1.2-18     2019-11-27 [1] CRAN (R 4.0.2)
## memoise       1.1.0      2017-04-21 [1] CRAN (R 4.0.0)
## pkgbuild      1.1.0      2020-07-13 [1] CRAN (R 4.0.2)
## pkgload       1.1.0      2020-05-29 [1] CRAN (R 4.0.2)
## prettydoc     0.4.0      2020-08-10 [1] CRAN (R 4.0.2)
## prettyunits   1.1.1      2020-01-24 [1] CRAN (R 4.0.0)
## processx      3.4.4      2020-09-03 [1] CRAN (R 4.0.2)
## ps            1.3.4      2020-08-11 [1] CRAN (R 4.0.2)
## R6            2.4.1      2019-11-12 [1] CRAN (R 4.0.0)
## Rcpp          1.0.5      2020-07-06 [1] CRAN (R 4.0.2)
## remotes       2.2.0      2020-07-21 [1] CRAN (R 4.0.2)
## reticulate    1.16-9001  2020-09-15 [1] Github (rstudio/r
## rlang         0.4.7      2020-07-09 [1] CRAN (R 4.0.2)
## rmarkdown     2.3        2020-06-18 [1] CRAN (R 4.0.2)
## rprojroot     1.3-2      2018-01-03 [1] CRAN (R 4.0.0)
## sessioninfo   1.1.1      2018-11-05 [1] CRAN (R 4.0.0)
## stringi       1.5.3      2020-09-09 [1] CRAN (R 4.0.2)
## stringr       1.4.0      2019-02-10 [1] CRAN (R 4.0.0)
## testthat      2.3.2      2020-03-02 [1] CRAN (R 4.0.0)
## usethis       1.6.3      2020-09-17 [1] CRAN (R 4.0.2)
## withr         2.3.0      2020-09-22 [1] CRAN (R 4.0.2)
## xfun          0.18       2020-09-29 [1] CRAN (R 4.0.2)
## yaml          2.2.1      2020-02-01 [1] CRAN (R 4.0.0)
##
## [1] /Library/Frameworks/R.framework/Versions/4.0/Resource
```