

On your device

Prior starting, make sure to have admin rights on your device. While this is not a must-have it will make your life way easier.

A. Basics

1. Install R

- <https://cran.r-project.org/bin/windows/base/>
 - We developed the code in R 3.4.1. While backward compatibility is not guaranteed, newer R releases should properly work.

2. Install R Studio (R IDE)

- <https://www.rstudio.com/products/rstudio/download/>

3. Data Manipulation

```
install.packages('tidyverse')
```

4. General ML package

```
install.packages('caret')
```

5. Others packages in support

```
install.packages(c('rmarkdown',  
                  'e1071',  
                  'mlbench',  
                  'ggthemes',  
                  'assertthat',  
                  'kernlab',  
                  'rpart',  
                  'rattle',  
                  'kknn',  
                  'randomForest',  
                  'nnet',  
                  'RSNNS',  
                  'Metrics',  
                  'AUC')  
)
```

B. Neural Networks

1. 64-bit OS

Sorry, this is a must have.

2. Install the latest release of Python

- <https://www.python.org/ftp/python/3.6.5/python-3.6.5-amd64.exe> (Windows)
- <https://www.python.org/ftp/python/3.6.5/python-3.6.5-macosx10.9.pkg> (Mac OS X 10.9 and later)

Do not forget to set the following **environment variables** on your device

- *PATH* must point to the directory of python.exe (e.g. C:\User\FolderWhereYouInstalledPython)
- *PATH* must point to the directory of python.exe (e.g. C:\User\FolderWhereYouInstalledPython\scripts)

And, in case you are working on a corporate device:

- set *HTTP_PROXY* to http://YOUR_ID:YOUR_UNIDIR_PWD@proxymil.internal.unicredit.eu:3128/
- and *HTTPS_PROXY* to https://YOUR_ID:YOUR_UNIDIR_PWD@proxymil.internal.unicredit.eu:3128/

3. Interface R - Python

```
install.packages('reticulate')
```

4. Neural Nets

```
install.packages(c('tensorflow',  
                  'keras'))  
  
tensorflow::install_tensorflow()  
keras::install_keras() # this may throw an error but work anyway
```

C. Jupyter Notebooks

In case you want to run our amazing notebooks offline. (Requires Python installation)

1. Configure stuffs

Do not forget to set the following **environment variables** on your device

- *PATH* must point to the directory of R.exe (e.g. C:\Program Files\R\R-3.4.1\bin)

```
install.packages(c('repr',  
                  'IRdisplay',  
                  'evaluate',  
                  'crayon',
```

```
'pbdZMQ',
'devtools',
'uuid',
'digest'))
```

- Once you have installed the required packages, run this:

```
devtools::install_github('IRkernel/IRkernel')
IRkernel::installspec(user = FALSE)
```

- **Only if** the command above did not work, please download and unzip this and run the following:

```
devtools::install('C:\whateverFolderYouHaveUnzippedTheFile\IRKernel')
IRkernel::installspec(user = FALSE)
```

2. Install visual Studio Build Tools

- <https://www.visualstudio.com/it/thank-you-downloading-visual-studio/?sku=BuildTools&rel=15>

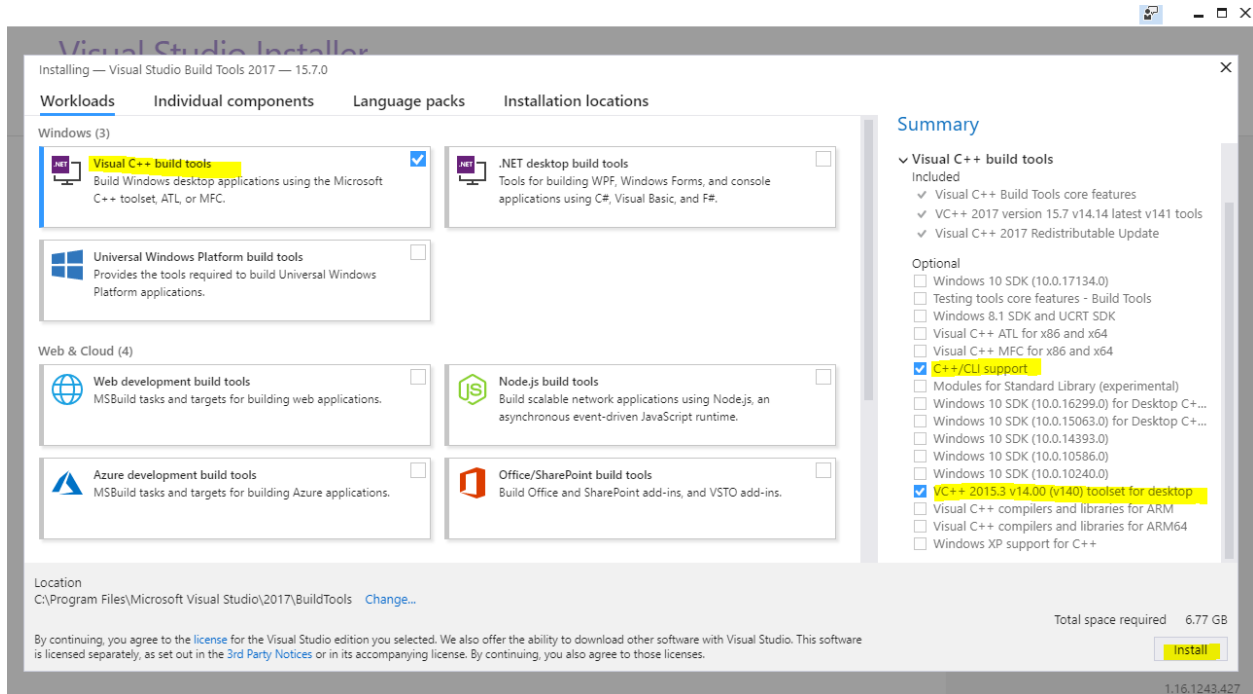


Figure 1:

3. From the CMD line (opened as administrator)

- If you wish to use jupyter notebooks

```
pip install jupyter
```

- If you prefer jupyterlab instead

```
pip install jupyterlab
```

- Be sure to be in the right hard drive

C:

- Download the source files and unzip.
- Start jupyter/jupyterlab (a browser window should magically pop up). From there, you can source the .ipynb in the folder where you have downloaded it

jupyter-notebook

jupyter-lab

- To end the jupyter session (once you are done), hit CTRL+C twice in the CMD line
-

D. Cloud

In case you do not manage to execute **A.** and **B.** you can run everything from <https://rstudio.cloud>