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',
                   'plotly',
                   'rBayesianOptimization')
)
```

B. Jupyter Notebooks

In case you want to run our amazing notebooks offline.

1. 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/

2. Install visual Studio Build Tools

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

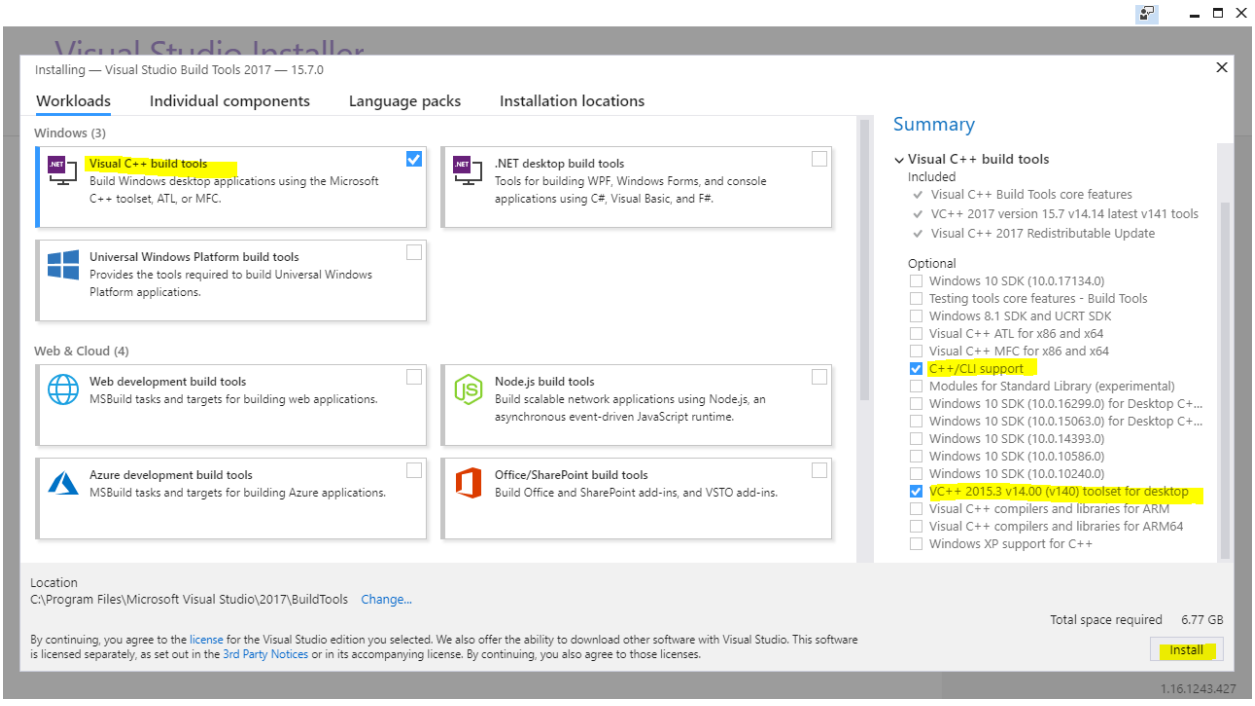

Figure 1:

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
```

4. Configure stuff in R

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:\whatheverFolderYouHaveUnzippedTheFile\IRKernel')
IRkernel::installspec(user = FALSE)
```

5. From the CMD line (again, opened as administrator)

- 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

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C. Neural Networks

Requires Python installation (see B.)

1. 64-bit OS

Sorry, this is a must have.

2. Interface R - Python

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

3. Neural Nets

```
install.packages(c('tensorflow',
                   'keras')
)

tensorflow::install_tensorflow()
keras::install_keras() # this may throw an error but work anyway
```

4. Save and Load trained models

Run the follwing in the command line.

```
pip install h5py
```

D. Cloud

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