R, RStudio and CRAN Packages Installation Guides

Machine Learning (41204)

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IMPORTANT: Computer Hardware and Operating System Assumptions

In the following installation guides, we assume that your machine runs on either **Mac** or **Windows**.

If you happen to use Linux or another operating system, certain setups can get hairier and there may be a need to consult Dr. Google and Prof. Stack Overflow heavily.

You may contact our kind-hearted Teaching Assistants for individualized assistance, although there is no guarantee we can solve non-Mac, non-Windows problems.

R Installation

Go **here** to download a graphical installer of the latest R version appropriate for your machine's

- ▶ processor (32-bit / 64-bit) and
- ▶ operating system (Mac / Windows).

Run the installer and follow its instructions to install the software into a folder you prefer.

It is preferred that the R installation folder path DO NOT CONTAIN BLANK SPACES, because spaces occasionally cause bugs in dependent open-source software packages.

R Installation: Extra Steps for Windows Users Only

Windows users need one extra step to make sure you can run the command **Rscript.exe** from the command-line terminal.

- ▶ Go to **Control Panel** > **System** > **Advanced System Settings** > **Environment Variables**, look under the **System Variable** section for the variable **Path**, and append the following path to the existing text:
    - ▶ **;[Your R Installation Folder]/bin**
    - ▶ *(note that there should be a* **semi-colon (;)** *separating the existing path and the appended path, and that there must be* **no space** *between that semi-colon and the appended path)*

- ▶ Open the command-line terminal via **Start Menu** > **Run** > **cmd**. Enter the following command and verify that it returns the folder path containing the **Rscript.exe** file:
    - ▶ **where Rscript**

RStudio Installation

RStudio is the most popular integrated development environment (IDE) for R.

Go **here** to download a graphical installer of RStudio appropriate for your machine's

- processor (32-bit / 64-bit) and
- operating system (Mac / Windows).

Run the installer and follow its instructions to install the software into a folder you prefer.

CRAN Packages Installation

We need to install a number of packages from the **Comprehensive R Archive Network (CRAN)**, a repository of open-source packages developed in R.

- ▶ Open the command-line terminal:
    - ▶ Mac: via the **iTerm app**
    - ▶ Windows: via **Start Menu** > **Run** > **cmd**
- ▶ Navigate to the **[Your Course Repository Folder]/Software Guides/R/** folder
- ▶ Run the command **Rscript RInstallPackages.R** to install the R packages necessary for this course