La Boiz, diagnostic application out of omics data

Introduction

The purpose of this application is to provide a user-friendly tool to build a prediction model from omics datas. The main objective of this tool is to be used directly by biologists. Its use should therefore not require programming knowledge. I got it developed thanks to the R Shiny package allowing to create a simple interface. The script for this application is available in this Github file (https://github.com/Boizard/Laboiz). The tool is suitable for needs and habits of biology field. Therefore many choices in the development of this tool were made to approximate their routines. For example upload datas and downloading results can be done by commonly used formats like Excel. In addition it is important to be able ensure the correct understanding and use of each stage of the pipeline. It seemed to me important that each step is provided with graphic output and that the results (intermediate or final) can be downloaded by the user of the application.

One of the main concerns in its development is to create a tool adaptable to different studies. There is no standard treatment with this type of data, in terms of normalization, selection, or even modeling. Design of this tool was therefore made with the perspective of adapting to all uses by the provision of all parameters, adjustable directly by the user.

Getting started

Install software

La Boiz is programmed with R software and the shiny package. It is necessary to install R (https://cran.r-project.org/bin/windows/base/) and Rstudio (https://rstudio.com/products/rstudio/download/#download). Then you have to install the shiny package on the Rstudio console.

```
install.packages(“shiny”)
```

Launch the application

To run the tool you have to boot shiny package and run Laboiz by writing the folowing the code lines in Rstudio.

```
library(“shiny”)

runGitHub(repo = "Laboiz",username ="Boizard")
```

For the first launch, the software install packages and dependencies (last few minutes).

Example data

Voir Béné données publié.

Help section

More explanation are available in the software by tchecking the ‘show help‘ box on the bottom left of the window.