

courseWorkCS8631

Project Title: Cyber Security: Safety At Home, Online, and in Life

Project Overview:

This project investigates and provides insights on the dataset collected for the Cyber Security: (Safety At Home, Online, and in Life) course developed by Newcastle University and offered by the Future Learn Platform which is a massive open online course (MOOC). The course is 3 weeks long and was free to access. So we have to come up with two research question, and carry out our analysis by implement CRISP-DM and follow the steps to find a solution for the research question. Two cycles of CRISP-DM is carried out for this project.

Directory structure:

The overall structure looks like > courseWorkCS8631 |__ cache > Intermediate dataset |__ data > Raw data files |__ gitlogdata.txt |__ graphs > images of the visualisations |__ munge > files related to pre processing of raw data |__ README.md |__ reports > the main analysis

Directory Overview:

The repository is named as 'courseWorkCS8631', it has the following files

1. data -> this data folder has all the raw datafiles of the futurelearn
2. cache -> cache has the pre-processed and intermediate datas
3. munge -> munge folder has the files related to the pre-processing steps
 1. 01-dataCleaning.R
 2. 02-dataIntegration.R
 3. 03-dataTransformation.R
4. graphs -> this folder has all the images of the visualisations that are plotted for the dataset for analysis purpose
5. report -> this folder has the analysis report which needed to be knitted to visualise the output pdf of the report, and here is the main analysis is stored AnalysisReport.Rmd AnalysisReport.pdf
6. The README.md file has all the basic information about the project installation and also about the file structure.
7. The gitlogdata.txt has the git commit history with which we can understand at which stage what all files and actions were carried out

Setup Instruction:

After installing the Rstudio and R in your system, Now proceed with the below instructions

Execution Instruction:

If u have not used RStudio before and setting it up new, the below instructions are better for a new user in macOS

1. download the zip file and extract all the files into a new folder in your desired destination
2. open r studio in your system and file -> open project and select the directory in which you have extracted the project folder

xcrun: error: invalid active developer path (/Library/Developer/CommandLineTools), missing xcrun at: /Library/Developer/CommandLineTools/usr/bin/xcrun xcrun: error: invalid active developer path (/Library/Developer/CommandLineTools), missing xcrun at: /Library/Developer/CommandLineTools/usr/bin/xcrun

If you are facing this issue in MacOS then you need to execute the below command in your Rstudio terminal and grant permission the command is : xcode-select --install

Next you will have to ,

1. On top you will be able to see a warning , If it says any of the package is not installed and ask you to install kindly install it, If not I request to execute the command The warning pop up with saying 'Rendering Rmarkdown documents required to updated version of the following packages , do you want to instal it ?" give an yes to it.

```
install.packages("package name") library(packagename) renv::snapshot() renv::status()
```

You should be able to see No issues found – the project is in a consistent state.

2. open the report folder -> choose the AnalysisReport.rmd file.
3. After this navigate to the reports folder -> AnalysisReport.pdf.
4. Now, in the top section below the file name , there will be an option to knit the file (8th option) click it and choose knit to pdf and wait for it to generate a pdf file with the visualizations.

If it throws an error as tinytex is not there and asks you run the command

```
>install.packages("tinytex")  
>tinytex::install_tinytex()
```

and now again try knitting it , you will see the render will start downloading and once the execution completes you will be able to see a pdf file opening.

If u still face any issues you can try this command `tinytex::reinstall_tinytex()` and execute it and again knit it and check.

Additional Setup Instruction:

If u still face any more issues, some problems faced when trying to execute in other system , and its solutions are given below

1.run the command `install.packages("ProjectTemplate")` and choose 'Y' when it asks you with a prompt after its successfully completed. 2.run `renv::snapshot()` and give 'Y' when it asks for permission and after it successfully executed. 3.run `renv::status()` to verify if there are no issues found – the project is in consistent state. 4.If you get an error like,

Error in `contrib.url()`: ! trying to use CRAN without setting a mirror Backtrace.

you will need to run below command and see few packages getting installed wait for the process to complete.

```
>library(ProjectTemplate)  
>load.project()
```

the above lines need to be executed and it will take some time to install few packages after it downloads everything, then proceed with next steps.

Additional resources: For more details about ProjectTemplate, see <http://projecttemplate.net>