

SM-2302 Labs (Git & GitHub)

1. For this exercise, you will learn to create a private repo on GitHub, similar to how you would do when submitting your individual assignment. You will get to practice submitting R code from the titanic data set. Follow the instructions below.
 - i. On Canvas, go to the Assignments tab, and select the ‘Titanic’ lab assignment. You will find the link to accept the GitHub Classroom assignment.
 - ii. Select your name from the roster and follow the instructions. Login to GitHub as necessary. A private repository located at the `sm2302-aug23` GitHub Organisation should have been created for you.
 - iii. When greeted with the repo setup page on GitHub.com, **Select the ‘Set up in Desktop’ icon and click it.** This should bring you to the GitHub Desktop app on your computer. Clone this (blank) repository onto a local folder on your computer.
 - iv. Add the following three files as your first commit (obtained from Canvas):
 - `titanic_codebook.txt`
 - `titanic.csv`
 - `titanic.R`

Don’t forget to push to GitHub.

- v. Next, launch RStudio and create a new project called `titanic`. Since the folder has already been created, select ‘Existing Directory’ and point it to your local GitHub titanic folder. If done successfully, you should have a file called `labs-ind-<your_username>.Rproj` created in the folder.

Commit and push this change to GitHub. Note that there might be an additional `.gitignore` file created by RStudio automatically as well.

Hint: The easiest way would be, while RStudio is not running, double click on the `titanic.R` file in your local GitHub folder. The working directory then should be where the file is.

- vi. Next, you will run all the commands in the R script. **But, before you do this, add the following line to the very bottom of the R script.**

```
ggsave("pred_prob_surv.png", width = 8, height = 4)
```

After running the entire R code, there should be two new files created in the folder. Commit and push these to GitHub.

Some questions to ponder:

- What does the `ggsave()` function do?
- What is the other file that has been created? What is its purpose?

- vii. Next, create a new Markdown file (extension `.md`). You can do this by going to File → New File → Markdown file in RStudio. Name this file `README.md`.

The README file should contain some brief description about what your repo contains. This is especially useful to let other people know what to expect when they visit your repo. Go ahead and write a couple of lines and paragraphs about your repo. Once that's done, commit and push to GitHub.

Hint: Use the following Markdown Cheat Sheet: <https://www.markdownguide.org/cheat-sheet/>.

NOTE: THE NEXT ACTIVITY MAY NOT WORK IF YOU HAVE NOT APPLIED FOR EDUCATION BENEFITS FROM GITHUB. DO SO AT <https://education.github.com/benefits/offers>.

- viii. Finally, we will be converting the repo to a static website that is hosted on GitHub. This feature is called GitHub pages. On your GitHub titanic repo, go to Settings → Pages (on the left side tab). Under the 'Branch' setting, select 'main', and click Save.

It may take a while to set up, but eventually your website will be up and running at [https://sm2302-aug23.github.io/labs-ind-`<your_username>`](https://sm2302-aug23.github.io/labs-ind-<code><your_username></code>). Go check it out!

What do you notice about the content of your website? I'm sure you can figure out how to change the contents; feel free to do so.

- ix. **SUBMISSION.** Once you are done with this exercise, go back to Canvas and submit the url of your GitHub website (or of the repo, if you were unable to create the website). This is how you submit an assignment using GitHub Classroom and Canvas.
2. Now we will essentially repeat the procedure but you will be working in teams. This exercise is practice for your group work assignments.
 - i. As before, go to the Assignments tab in Canvas and select the 'Group Lab' assignment.

Note: The first user (preferably the group leader) to accept the assignment gets to create the group name. To be consistent, use your Canvas group names. Subsequent students who accept the assignment should be able to see the group that was created, and join that group.

- ii. This time, instead of creating a blank repo, you will be given a *template repo*. You will be modifying this template as a team. The instructions for the group work is on the GitHub repo. Please read them carefully and begin your work.
- iii. When you are done, submit your assignment to Canvas by pasting the URL of the GitHub repo.