

Version Control

Data Science Tools Workshop

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Who I am

- ▶ PhD in Economics from the University of Ottawa
- ▶ Currently a Postdoc at uOttawa and Part-time professor
 - ▶ I teach econometrics (McGill) and data science (uOttawa)
- ▶ Environmental economist
 - ▶ applied work
 - ▶ machine learning

The tools I am using

- ▶ My first language was Stata
 - ▶ Stata is terrific language and extremely capable
 - ▶ It is limited by its proprietary nature
- ▶ When I started the research part of my PhD I dived into Python and R
 - ▶ I needed Python to handle weather data
 - ▶ I also discovered the many capabilities of R
- ▶ Today my preferred language is:
 - ▶ Python for machine learning
 - ▶ R for presentation, website, Github
 - ▶ Stata and R for causal inference regressions

Motivation

- ▶ Data s

Motivation

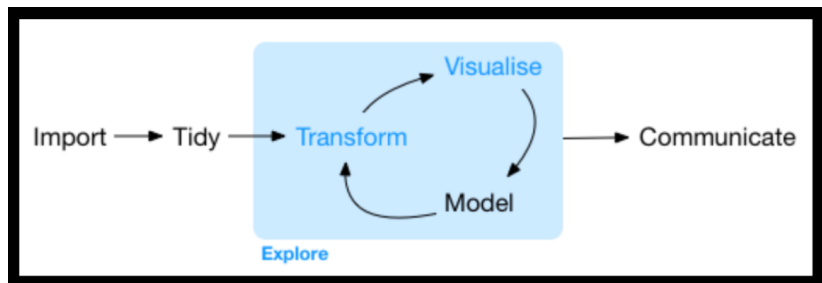
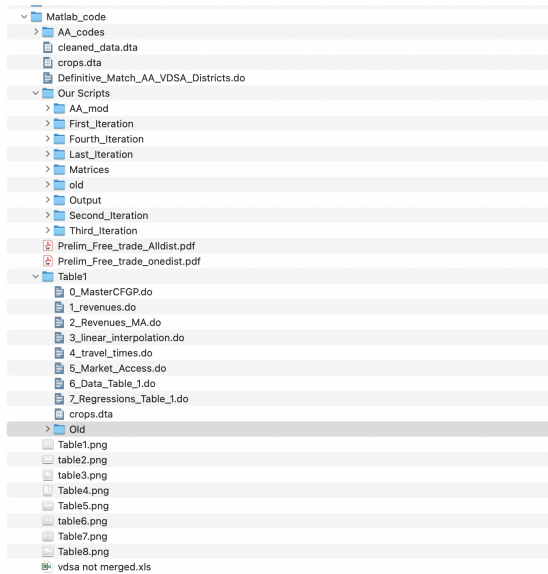


Figure 1: Source: r-bloggers

Looks familiar?



Exercise 1 - Create

- ▶ Create a new repository:
 - ▶ Go on your Github page and click on the green button “New”
 - ▶ call this new repository repo-mont2
 - ▶ Select: Add a README file
 - ▶ Click on Create repository at the bottom

Exercise 1 - Import locally

- ▶ Go on your Github desktop app
- ▶ At the top left use the drop down arrow
- ▶ Select:
 - ▶ Add
 - ▶ Clone repository. . .
 - ▶ URL
- ▶ Enter the URL of your Github project
 - ▶ For instance mine is : <https://github.com/forged/repo-mont2>
- ▶ At the bottom click on Choose. . .
 - ▶ Locate where you want to put the files
 - ▶ Give a name to the folder like repo-mont2

Exercise 1 - Modify and Commit

- ▶ Locate your README.md file
- ▶ This is a markdown file which you can edit from any texteditor (including Latex)
- ▶ Go back to your Github desktop app
 - ▶ You should now see the changes that were made to your README
- ▶ At the bottom left of the app there is a box for you to fill out in which you **must** describe the modifications that you made
 - ▶ In sumary type: my first commit
 - ▶ In description type: I changed the README using the text editor XXX
- ▶ Then click on commit to main

Exercise 1 - Push

- ▶ At the top of the Github app you have a Push origin button
- ▶ Click on it
- ▶ Go back to your Github page
- ▶ Refresh your screen

Exercise 1 - History

- ▶ Above your README file you have the list of the files in your repository and commit messages
 - ▶ of course at this stage you only have
- ▶ Click on the history button (to the right)



- ▶ You can now see the history of the versions of this file
 - ▶ the initial and the one you edited
- ▶ Go back to the Github desktop app
 - ▶ At the top left select history
 - ▶ You can also see the old version

Exerice 1 - Changes on line

- ▶ You can now go back to the Github website.
- ▶ Locate the edit button (looks like a pencil)
- ▶ Edit the README file directly online:
- ▶ At the bottom of the README file add “Hello again this is my second edit to my first repository”
- ▶ Scroll down to Commit Changes
 - ▶ Enter: “my second edit”
 - ▶ click on commit

Branching

Git Branching

■ Master Branch

Commit #1

Commit #2

Commit #3

