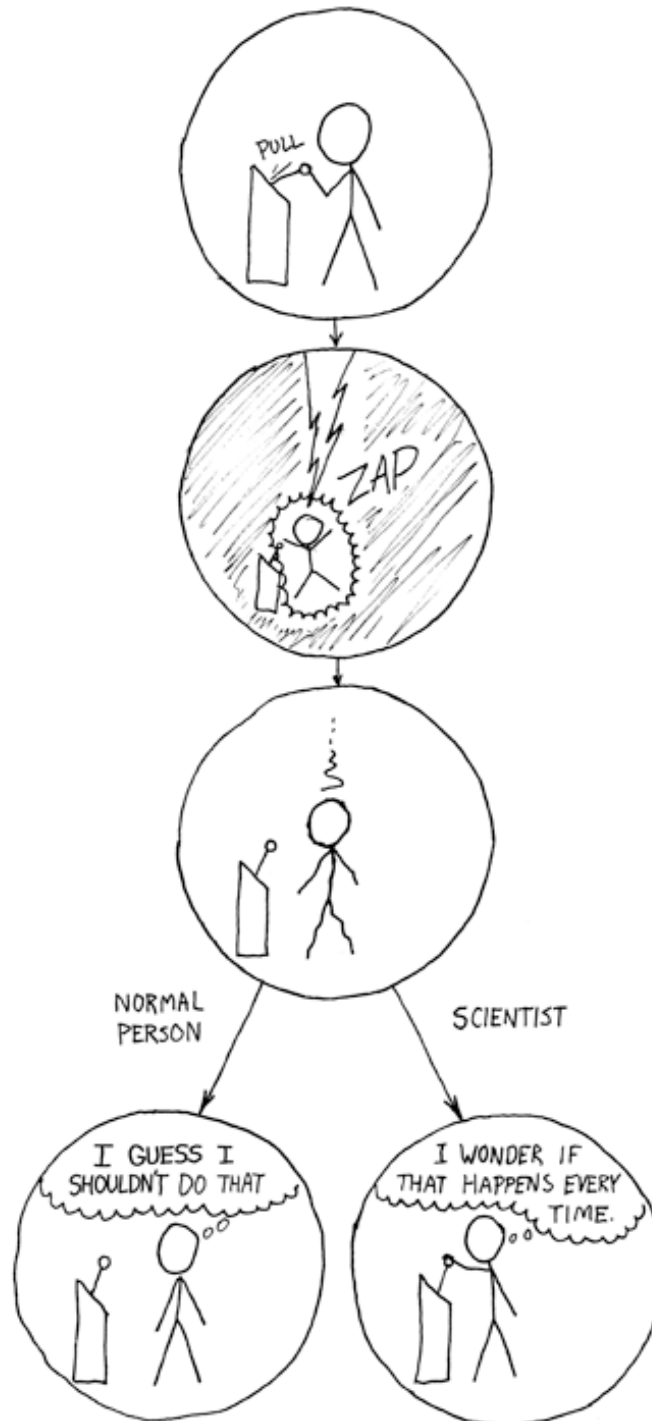# What Can I Do With Git/Github?

"Non-reproducible single occurrences are of no significance to science." —Karl Popper

Popper, K. R. 1959. The logic of scientific discovery. Hutchinson, London, United Kingdom.

Software carpentry

- Write software for people not computers
- Automate repetitive tasks
- **Use the computer to record history**
- Make incremental changes
- **Use version control**

- Don't repeat yourself
- Plan for mistakes
- First make it correct, then make it fast
- Document design & purpose not mechanics
- **Conduct code reviews**

What is version control?
What does git do?

- Keeps track of changes made to files

- Lets you go back to old versions

- Only one version in your directory

- + Github

  - Keep files synced at multiple locations

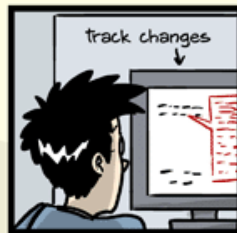 - Work with other people

  - Publish your code

"Piled Higher and Deeper" by Jorge Cham,
http://www.phdcomics.com

More Realistically

script_v1.py
script_v2.py

file-04-05-2015.docx
file-06-08-2016.docx

2015-05-04-file.docx
2016-06-07file_PI.docx
2016-06-08-file.docx

Why Learn Git?

- Reproducible Research
  - For you
    - Your closest collaborator is you 6 months ago, and you don't respond to emails.
  - For publishing your analysis
- For collaboration
  - Code review
  - Working together on a project