



Version Control and YOU

by Henrique, Saman, and Erin





What is version control?

- Record changes to files
 - Existing changes are not permanently overwritten
 - See when a change was made, and who made the change
- Go back or revert to a previous version
 - Like a super powerful ctrl + Z!

Why use version control?

- Collaborate with other people working on the same files
 - Everyone has their own copy to modify
 - Different copies can be easily combined or “merged”
- Parallel development
 - “Branches” allow users to work on multiple issues/features at once
- Also...

It can save you from a literal disaster!



Command Line

- It is powerful!
- It is quick!
- It allows you to write programs without worrying about a GUI!

'ls' - list directory contents

```
(spark)Henriques-MacBook-Air:spark henriqueharman$ ls  
folder
```

'cd' - change directory

```
(spark)Henriques-MacBook-Air:spark henriqueharman$ ls  
folder  
(spark)Henriques-MacBook-Air:spark henriqueharman$ cd folder  
(spark)Henriques-MacBook-Air:folder henriqueharman$
```


‘ mkdir ’ - make directories

```
(spark)Henriques-MacBook-Air:folder henriqueharman$ mkdir subfolder
(spark)Henriques-MacBook-Air:folder henriqueharman$ ls
subfolder
(spark)Henriques-MacBook-Air:folder henriqueharman$
```

'rm' - remove

```
(spark)Henriques-MacBook-Air:folder henriqueharman$ rm text.txt  
(spark)Henriques-MacBook-Air:folder henriqueharman$ ls  
subfolder  
(spark)Henriques-MacBook-Air:folder henriqueharman$
```

Git on your computer

- Install git: <https://git-scm.com/downloads>

Create a new git repository

- 1) Create a new directory: `mkdir story`
- 2) Change to the new directory: `cd story`
- 3) Turn it into a git repository: `git init`

Adding/Changing Files

- 1) Add a file: `touch intro.txt`
- 2) Open and edit: `open intro.txt`
- 3) See changed files: `git status`

```
samans-air:story Saman$ git status
On branch master

Initial commit

Untracked files:
  (use "git add <file>..." to include in what will be committed)

        intro.txt

nothing added to commit but untracked files present (use "git add" to track)
```

Adding/Changing Files

- 1) Add the file you want to save: `git add intro.txt`
 - This file is now “staged” so the changes will be included the next time you “commit” (save) your files
- 2) Check status: `git status`

```
samans-air:story Saman$ git status
On branch master

Initial commit

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

    new file:   intro.txt
```

Adding/Changing Files

- Once a file is added, further changes to the file are tracked by github
- Those changes can be added (`git add intro.txt`) or removed (`git checkout -- intro.txt`)

```
samans-air:story Saman$ git status
On branch master

Initial commit

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

    new file:   intro.txt

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    modified:   intro.txt
```

Committing Changes

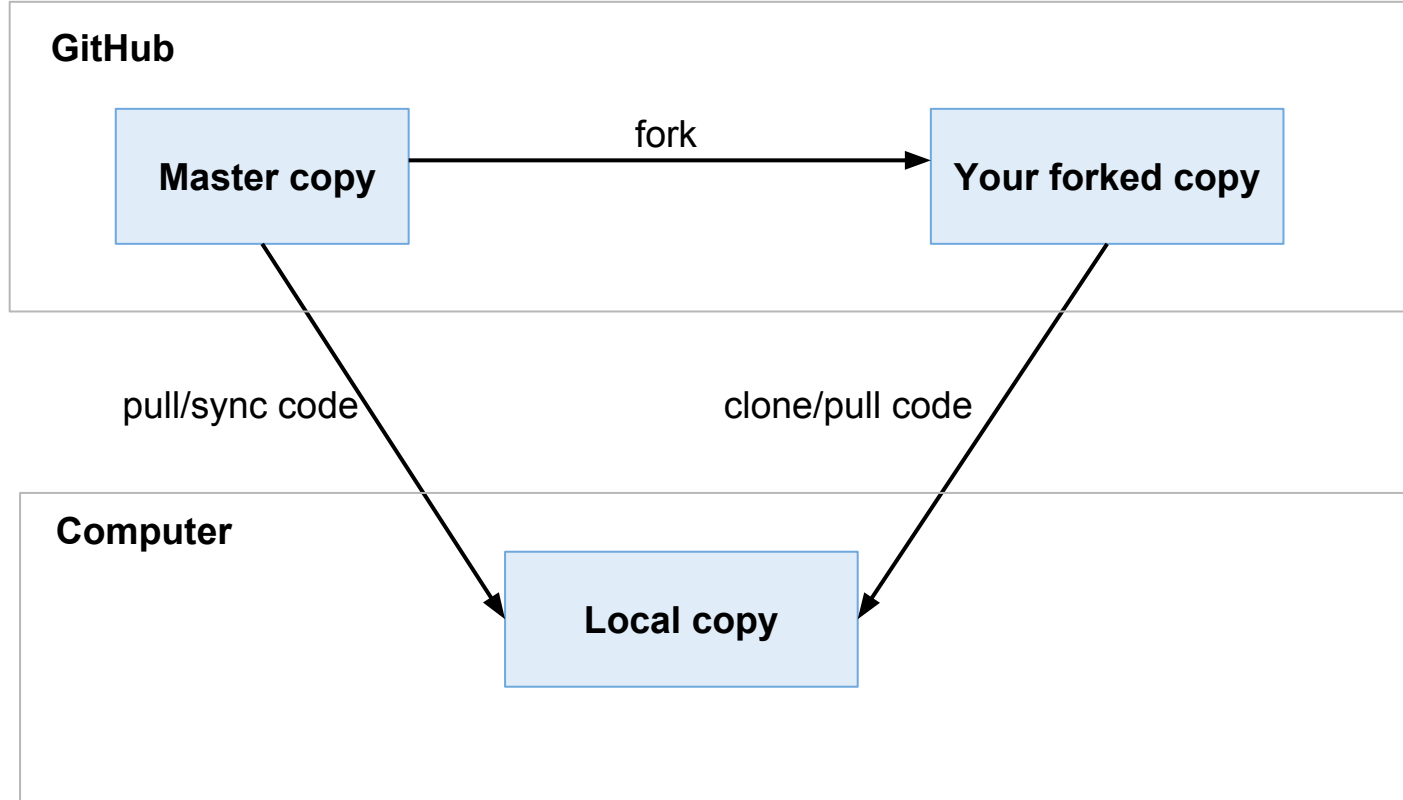
- 1) Commit your changes: `git commit -m "Your message"`
 - Saves a snapshot of your project including your staged changes
 - Include a message to describe the change
- 2) View commit history: `git log`

```
samans-air:story Saman$ git log
commit 281fc27e212666c80b0946089210faf4e9978d26
Author: Saman Ehsan <se8ea@virginia.edu>
Date:   Sat Jan 30 12:04:39 2016 -0500

    Introduction to my story
```

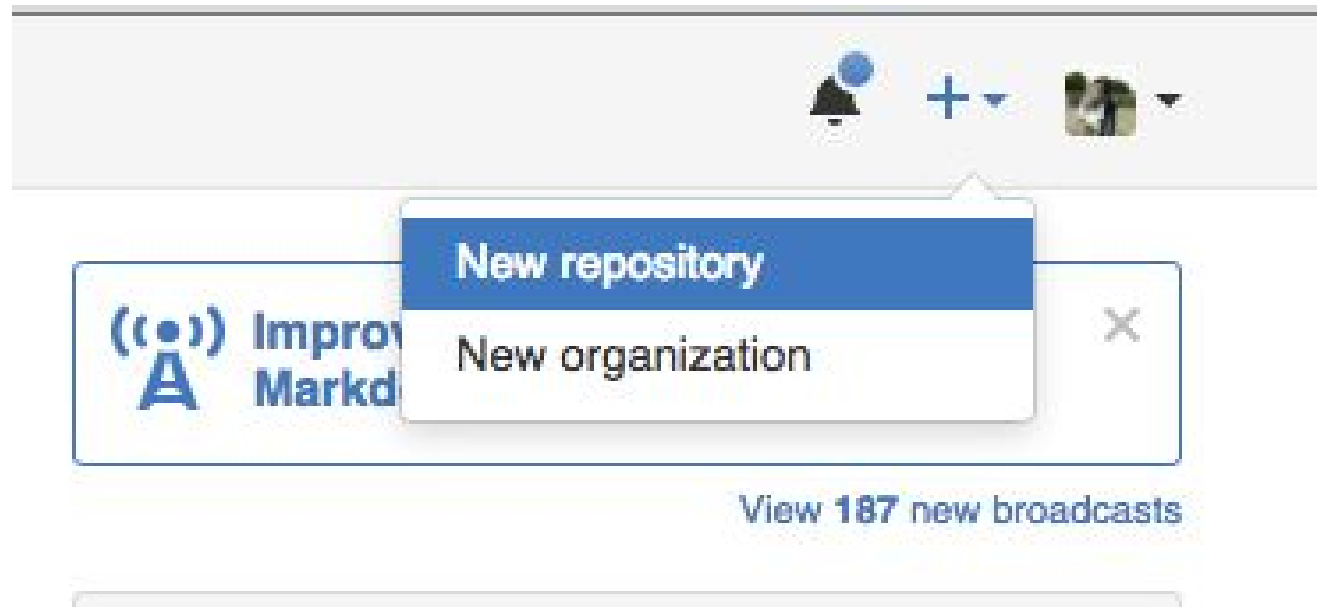

Git on the Internet!





Get your story out there!

github.com



we have an existing
repo, so make sure
not to check this box!



Create a new repository

A repository contains all the files for your project, including the revision history.

Owner

Repository name



erinspace ▾

/

Great repository names are short and memorable. Need inspiration? How about **cautious-funicular**.

Description (optional)



Public

Anyone can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.



Initialize this repository with a README

This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

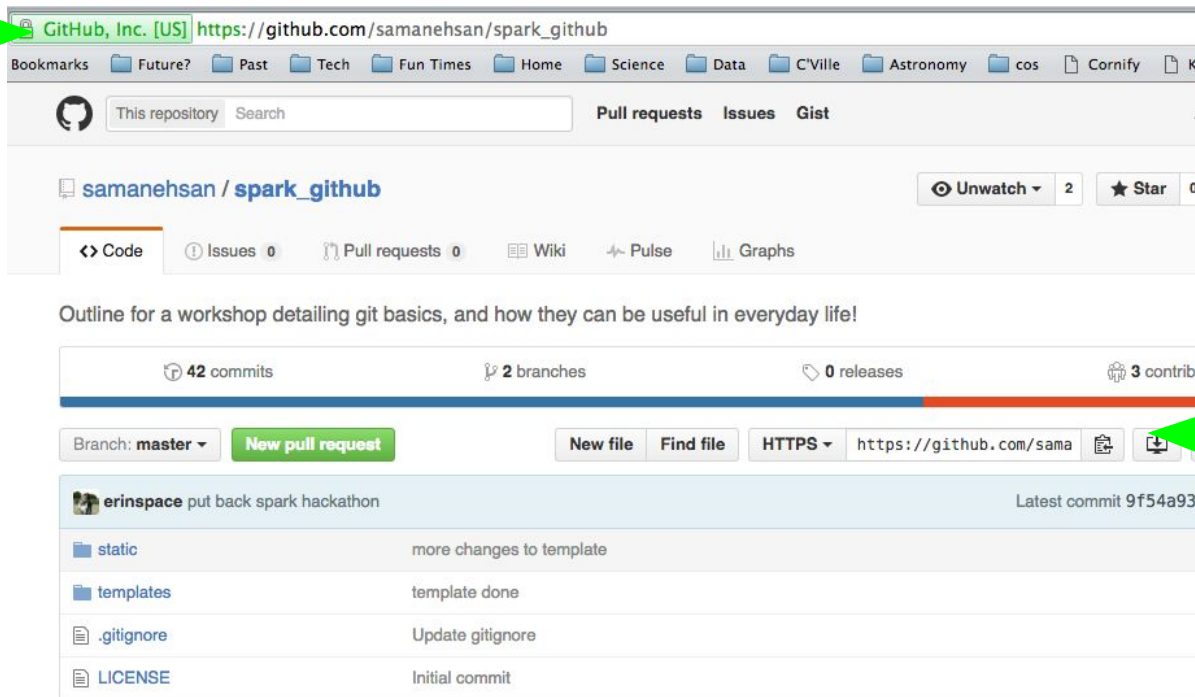
Add .gitignore: **None** ▾

Add a license: **None** ▾



Create repository

Copy the URL



The screenshot shows the GitHub repository page for `samanehsan / spark_github`. The address bar at the top displays the URL `https://github.com/samanehsan/spark_github`. A green arrow points to this URL. Below the repository name, there are tabs for `Code`, `Issues`, `Pull requests`, `Wiki`, `Pulse`, and `Graphs`. The `Code` tab is selected. Below the tabs, there is a section titled "Outline for a workshop detailing git basics, and how they can be useful in everyday life!". Below this section, there is a progress bar showing 42 commits, 2 branches, 0 releases, and 3 contributors. Below the progress bar, there is a section for the latest commit by `erinspace` with the message "put back spark hackathon" and the commit hash `9f54a93`. Below the commit section, there is a table listing the files in the repository:

File	Description
<code>static</code>	more changes to template
<code>templates</code>	template done
<code>.gitignore</code>	Update gitignore
<code>LICENSE</code>	Initial commit

A green arrow points to the clone button in the top right corner of the repository page.

git it out!

git remote add origin <your_repository_url_here>

git status

git add and commit as needed

git push origin master

Check out your repository!

 samanehsan / **spark_github**

 Code

 Issues 0

 Pull requests 0

Outline for a workshop detailing git basics, and

 42 commits


Check out your file history

Branch: master ▾



spark_github / README.md

Find file

Copy path

 **hmoco** Update README.md

7a902d7 2 hours ago


2 contributors  


23 lines (16 sloc) | 935 Bytes


Raw

Blame

History







Introduction to Version Control Using Git

Description

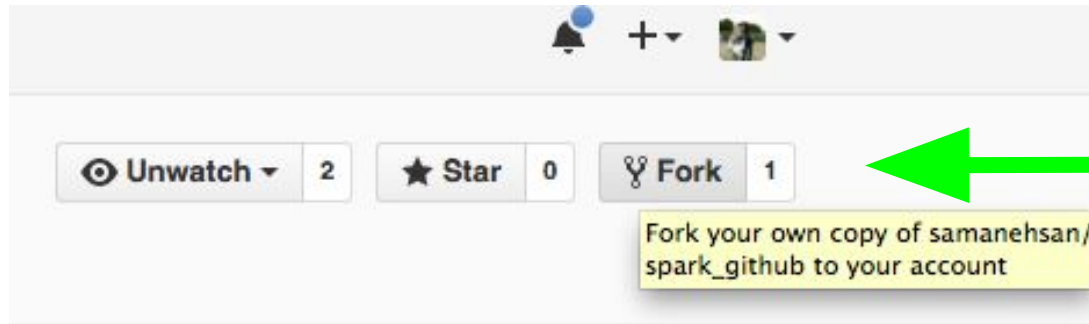


STOP.

Collaborate and Listen.

Fork It

github.com/samanehsan/spark_github



Clone It

```
git clone <your_repository_url_here>
```

Code it

helpers.py needs your help.

```
helpers.py x
1 """ A bunch of helper functions that, when fixed up, will return the things we
2 need to make this website work!
3 """
4
5 ## Import python libraries we need up here.
6
7
8
9 #####
10 """ Problem One! """
11 #####
12
13 def choose_random_unique_items(my_list, number_of_images):
14     """ Given a list of items, return a *random* element of that list.
15     Only return the item if we haven't seen it before! Get a sample. A random sample.
16     """
17     if number_of_images <= len(my_list):
18         # This is the case if our hashtag has enough images to meet our number request
19         # figure out the one line that we can return that will give us a random member of the
20         # list, with no repeats.
21         return ??
22     else:
23         # If we ask for more images that we have, then just return everything there is
24         return my_list
25
26
27 #####
28 """ Problem Two! """
29 #####
30
31 def choose_number_of_images():
32     """ Modify this function to return a number of instagram photos
33     you want to appear on the site at a time! Because of how the instagram API works,
34     it won't return more than 20 photos at once.
35     """
36     number = ??
37     return number
38
39
40 #####
41 """ Problem Three! """
42 #####
43
44 def choose_number_of_tweets():
45     """ Modify this function to return a number of tweets
46     you want to appear on the site at a time!
47     """
```

Line 1, Column 1

Add it

```
spark_github|master ⚡⇒ git add helpers.py
```

Commit it

```
spark_github|master ⚡⇒ git commit -m "Added some great stuff to helpers"
```

Push it

```
spark_github | master ⚡ ⇒ git push origin master
```

Pull Request It

samanehsan / spark_github

Unwatch 2

Star 0

Fork 1

Code

Issues 0

Pull requests 0

Wiki

Pulse

Graphs

Outline for a workshop detailing git basics, and how they can be useful in everyday life!

42 commits

2 branches

0 releases

3 contributors

Your recently pushed branches:

erinspace:feature/more_questions (less than a minute ago)

Compare & pull request

Branch: master

New pull request

New file

Find file

HTTPS

https://github.com/sama

Copy

Download ZIP



Deploy It!

CHECK IT

spark-git.herokuapp.com

QUESTIONS?

THANK YOU!

