Git and GitHub

Who am I?

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Holly Springsteen

Currently

- Full Stack Dev @ IBM Design
- TA @ The Coding Boot Camp at UT Austin

Previously

- Senior Front-End Developer @ Portlight
- PADI Divemaster
- Marine (active 2007 – 2012)

What's to come

- Git
  - What's Git
  - What's Important
  - Git References
- GitHub
  - What's GitHub
  - Recruiters Perspective
  - What's Important
  - Housekeeping Tips
- Q&A

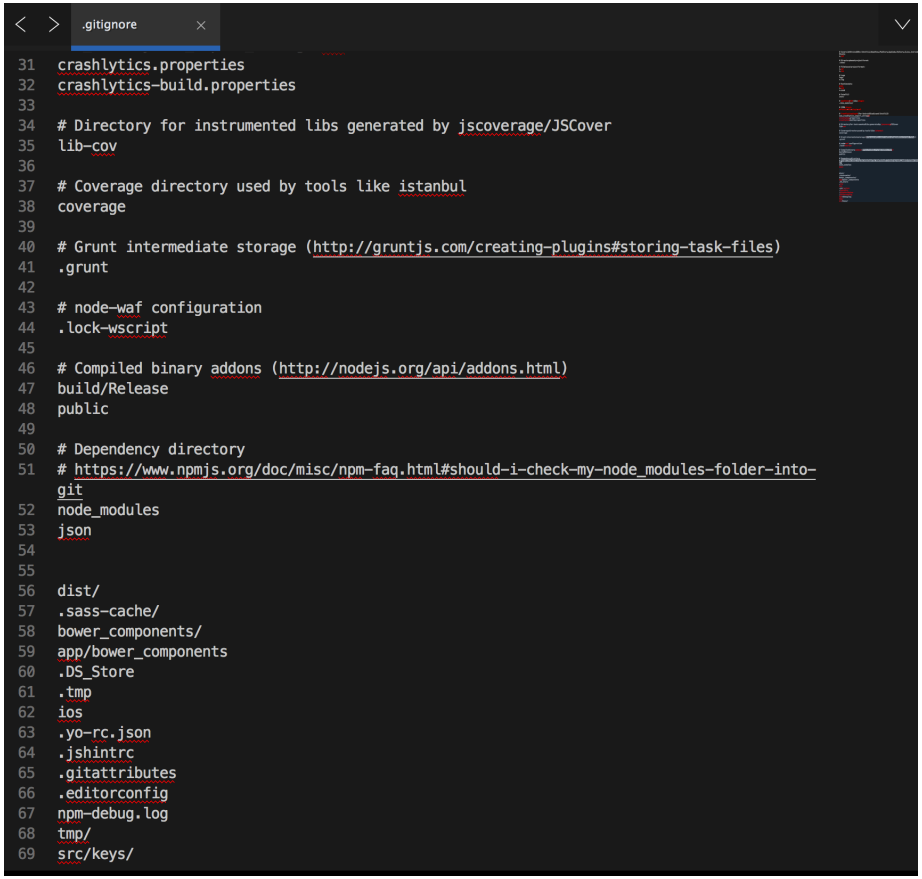
Git

What is Git

- Version Control System
  - a.k.a. source control, source control management, or revision control
  - Command line tool for saving history of file in a project
- Manages files by saving small changes (deltas) over time
  - Take a snap shot (commits) of changes in a repository
  - Can go backwards (roll back) in time and undo mistakes

.gitignore

https://git-scm.com/docs/gitignore



- Use the .gitignore file to intentionally untrack files
  - Temporary files
  - .DS_Store
  - changelogs
  - keys
  - config files

Git Cheat Sheet

https://training.github.com/kit/downloads/github-git-cheat-sheet.pdf

INSTALL GIT

GitHub provides desktop clients that include a graphical user interface for the most common repository actions and an automatically updating command line edition of Git for advanced scenarios.

GitHub for Windows
https://windows.github.com

GitHub for Mac
https://mac.github.com

Git distributions for Linux and POSIX systems are available on the official Git SCM web site.

Git for All Platforms
http://git-scm.com

CONFIGURE TOOLING

Configure user information for all local repositories

```
$ git config --global user.name "[name]"
```
Sets the name you want attached to your commit transactions

```
$ git config --global user.email "[email address]"
```
Sets the email you want attached to your commit transactions

```
$ git config --global color.ui auto
```
Enables helpful colorization of command line output

CREATE REPOSITORIES

Start a new repository or obtain one from an existing URL

```
$ git init [project-name]
```
Creates a new local repository with the specified name

```
$ git clone [url]
```
Downloads a project and its entire version history

MAKE CHANGES

Review edits and craft a commit transaction

```
$ git status
```
Lists all new or modified files to be committed

```
$ git diff
```
Shows file differences not yet staged

```
$ git add [file]
```
Snapshots the file in preparation for versioning

```
$ git diff --staged
```
Shows file differences between staging and the last file version

```
$ git reset [file]
```
Unstages the file, but preserve its contents

```
$ git commit -m "[descriptive message]"
```
Records file snapshots permanently in version history

GROUP CHANGES

Name a series of commits and combine completed efforts

```
$ git branch
```
Lists all local branches in the current repository

```
$ git branch [branch-name]
```
Creates a new branch

```
$ git checkout [branch-name]
```
Switches to the specified branch and updates the working directory

```
$ git merge [branch]
```
Combines the specified branch's history into the current branch

```
$ git branch -d [branch-name]
```
Deletes the specified branch

REFACTOR FILENAMES

Relocate and remove versioned files

```
$ git rm [file]
```
Deletes the file from the working directory and stages the deletion

```
$ git rm --cached [file]
```
Removes the file from version control but preserves the file locally

```
$ git mv [file-original] [file-renamed]
```
Changes the file name and prepares it for commit

SUPPRESS TRACKING

Exclude temporary files and paths

```
*.log
build/
temp-*
```
A text file named `.gitignore` suppresses accidental versioning of files and paths matching the specified patterns

```
$ git ls-files --other --ignored --exclude-standard
```
Lists all ignored files in this project

SAVE FRAGMENTS

Shelve and restore incomplete changes

```
$ git stash
```
Temporarily stores all modified tracked files

```
$ git stash pop
```
Restores the most recently stashed files

```
$ git stash list
```
Lists all stashed changesets

```
$ git stash drop
```
Discards the most recently stashed changeset

REVIEW HISTORY

Browse and inspect the evolution of project files

```
$ git log
```
Lists version history for the current branch

```
$ git log --follow [file]
```
Lists version history for a file, including renames

```
$ git diff [first-branch]...[second-branch]
```
Shows content differences between two branches

```
$ git show [commit]
```
Outputs metadata and content changes of the specified commit

REDO COMMITS

Erase mistakes and craft replacement history

```
$ git reset [commit]
```
Undoes all commits after `[commit]`, preserving changes locally

```
$ git reset --hard [commit]
```
Discards all history and changes back to the specified commit

SYNCHRONIZE CHANGES

Register a repository bookmark and exchange version history

```
$ git fetch [bookmark]
```
Downloads all history from the repository bookmark

```
$ git merge [bookmark]/[branch]
```
Combines bookmark's branch into current local branch

```
$ git push [alias] [branch]
```
Uploads all local branch commits to GitHub

```
$ git pull
```
Downloads bookmark history and incorporates changes

Branching

https://www.atlassian.com/git/tutorials/using-branches

- Branches are an independent line of development
- Encapsulate changes within a branch
  - Bug Fix
  - New Feature

Git References

- Version Control for Designers
  - http://blog.teamtreehouse.com/git-for-designers-part-1
- Git Fundamentals
  - http://gitimmersion.com
- Try Git from Code School
  - http://www.codeschool.com/courses/try-git
- Git Documentation
  - http://git-scm.com/documentation

github
SOCIAL CODING

Get your Octocat at:
https://octodex.github.com/

What is GitHub

- Web-based hosting service for projects that use Git
  - Provides social networking and web hosting for developers
- GitHub Pages are web pages hosted and published through GitHub
  - gh-pages branch
  - The web pages are viewable at: username.github.io/reponame/filename

- http://drastudio.github.io/url-generator/

GitHub Pages

1) create a new branch called gh-pages

```
git checkout -b gh-pages
```

2) merge your master branch with the new gh-pages branch

```
git merge master
```

3) push to GitHub

```
git push origin gh-pages
```

4) switch back to your master branch

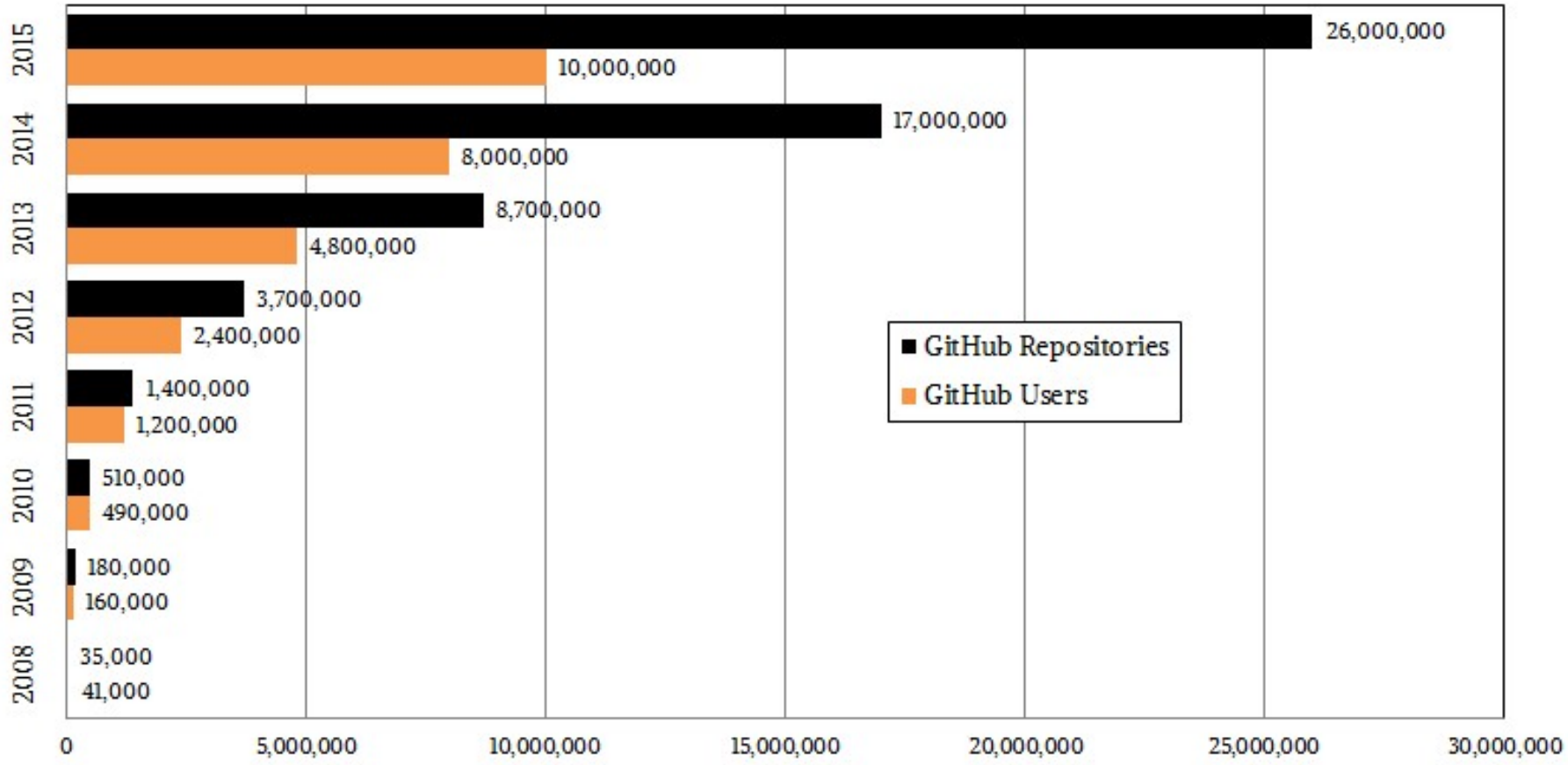
```
git checkout master
```

5) check out your repo at:

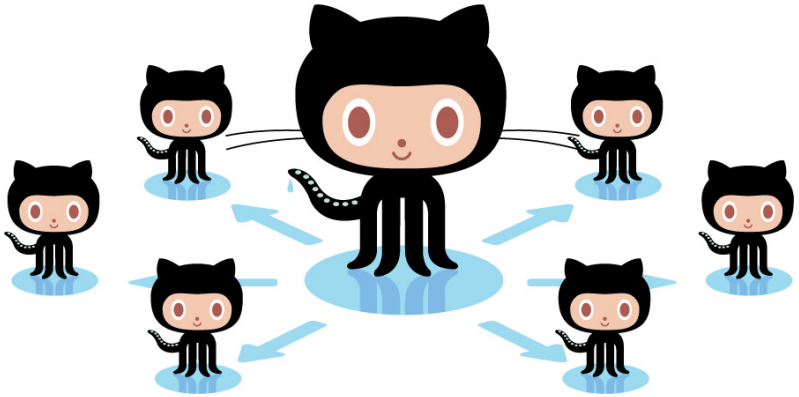
username.github.io/reponame/filename

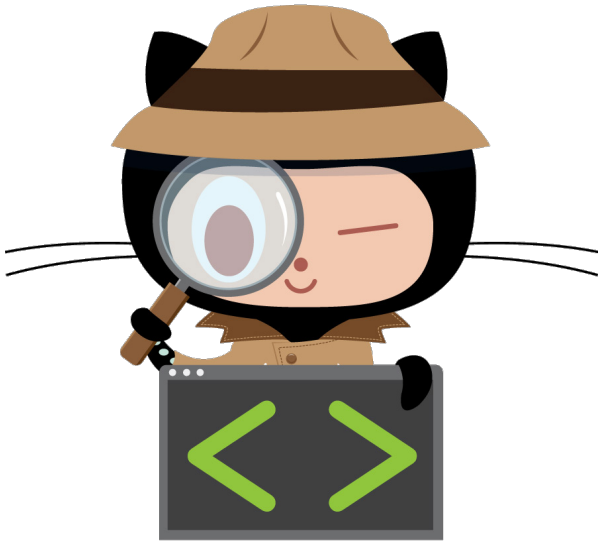
Recruiters Perspective

http://goo.gl/GNMJav



Why Do Recruiters Use GitHub

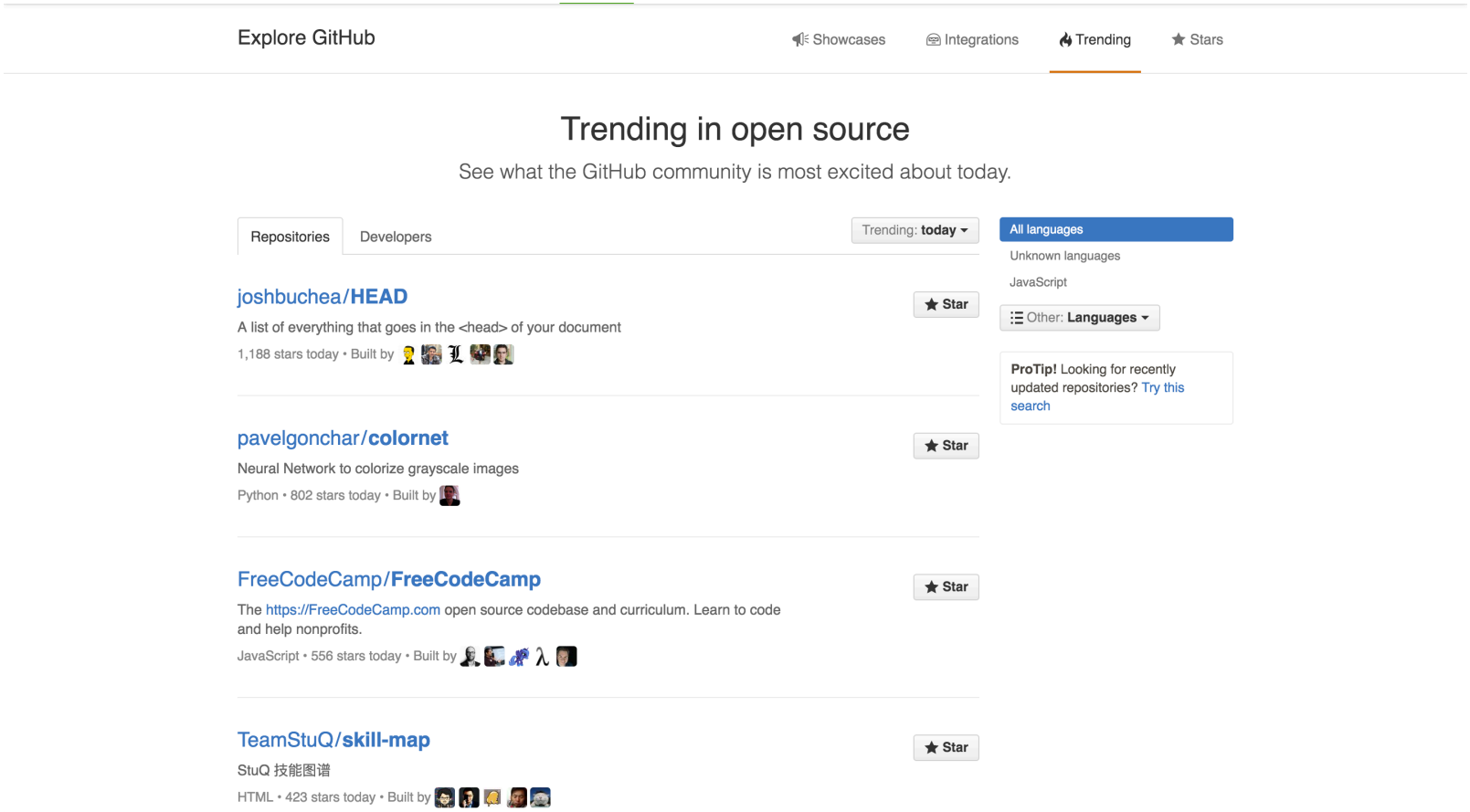




- Sourcing
  - Latest & Greatest
  - Social Coding
  - Stealth Discovery
- Assessment
  - Evidence of Availability
  - Contributions
  - Language Breakdown
  - Passion for Coding
- Contact Information

GitHub Trending Repositories

https://github.com/trending



Example Account

https://github.com/joshaber

Josh Abernathy
joshaber

GitHub STAFF
The Gem City
joshaber@gmail.com
http://twitter.com/joshaber
Joined on Jun 14, 2008

1.2k Followers **235** Starred **40** Following

Organizations

Contributions | Repositories | Public activity

Follow

Popular repositories

Few.swift Views as functions of their state.	807 ★
SwiftBox Flexbox in Swift, using Facebook's css-layout.	648 ★
clojurem Clojure to Objective-C compiler	291 ★
JAListView An NSTableView replacement that doesn't suck.	262 ★
MacShairport A native Mac Shairport implementation	163 ★

Repositories contributed to

atom/**atom** The hackable text editor	26,943 ★
libgit2/**objective-git** Objective-C bindings to libgit2	829 ★
nodegit/**nodegit** Native Node bindings to Git.	1,839 ★
atom/**status-bar** Status bar for Atom	54 ★
github/**ohnogit** For when you have to use git in nodejs.	4 ★

Public contributions

May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr

M W F

Summary of pull requests, issues opened, and commits. Learn how we count contributions.

Less More

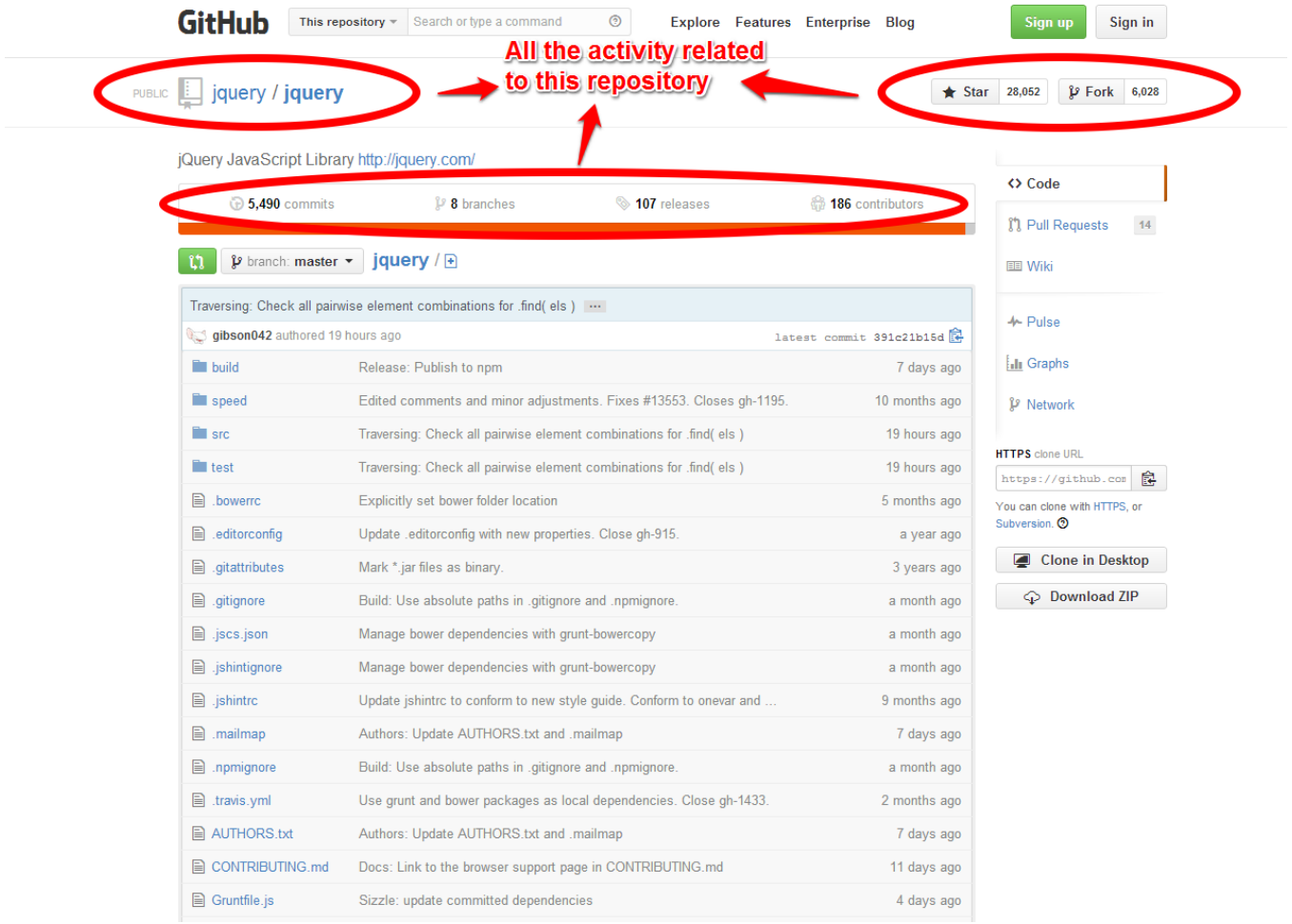
Contributions in the last year	Longest streak	Current streak
1,342 total	7 days	5 days
Apr 22, 2015 – Apr 22, 2016	July 1 – July 7	April 18 – April 22

Contribution activity

Period: 1 week

69 commits

Core Activity



Stars and Forks

- Starring
  - https://help.github.com/articles/about-stars/
  - Create a bookmark for easier access
  - Show appreciation to the repo maintainer
  - Your Starred Repos: https://github.com/stars
- Forking
  - https://help.github.com/articles/fork-a-repo/
  - Copy a repo and experiment without making changes to the repo itself
  - Propose changes for bug fixes with pull requests
  - Use someone else's repo as a starting point for your own project

Housekeeping Tips

- README === Documentation
- Maintain well commented code
- Consistent indentation / readability
- Deploy your repos & include links

Questions?
Answers?
Comments?

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