

## Geog5330: GitHub Introduction

Guofeng Cao modified based on Dr. Thomas Girke's class at UC  
Riverside

## GitHub Introduction

## GitHub and this class

- ▶ This class will make heavy use of GitHub
- ▶ Homework assignments will be submitted to GitHub repositories: one repository for each student
- ▶ Course projects will also use GitHub repositories: one repository for each course project
- ▶ Each student will need a personal GitHub account. They can be created [here](#).
- ▶ GitHub provides an unlimited number of free public repositories to each user. Via GitHub Education students can sign up for free private GitHub accounts ([see here](#)).
- ▶ For beginners this [quick guide](#) may be useful

# What are Git and GitHub?

- ▶ Git is a distributed version control system similar to SVN
- ▶ GitHub is an online social coding service based on Git
- ▶ Combined Git/GitHub: environment for version control and social coding

# Installing Git

- ▶ Install on Windows, OS X and Linux
- ▶ When using it from RStudio, it needs to find the Git executable

# Git Setup

- ▶ Setup username
  - ▶ `git config --global user.name "John Doe"`
  - ▶ confirm with `git config --global user.name`
- ▶ Setup username
  - ▶ `git config --global user.email "john.doe@ttu.edu"`
  - ▶ confirm with `git config --global user.email`
- ▶ To avoid asking for credentials everytime (optional)
  - ▶ use SSH version

# Git Basics from Command-Line

- ▶ Finding help from command-line

```
git <command> --help
```

- ▶ Initialize a directory as a Git repository

```
git init
```

- ▶ Add files to Git repository (staging area)

```
git add myfile
```

After editing file(s) in your repos, record a snapshot of the staging area

```
`git commit -am "some edits"`
```

## GitHub Basics from Command-Line

- ▶ Generate a new remote repository. Alternatively, create the repository online on the GitHub site.

```
git remote add origin  
https://github.com/tgirke/myrepos.git
```

- ▶ Push updates to remote. Next time one can just use `git push`

```
git push -u origin master
```

- ▶ Clone existing remote repository

```
git clone  
git@github.com:<user_name>/<repos_name>.git
```

- ▶ Before working on project, update local git repos

```
git pull
```

- ▶ Make changes and recommit local to remote

```
git commit -am "some edits"; git push -u origin  
master
```



# Using GitHub from RStudio

- ▶ After installing Git, set path to Git executable in Rstudio:
  - ▶ Tools > Global Options > Git/SVN
- ▶ If needed, login to GitHub account and create repository. Use option `Initialize this repository with a README.`
- ▶ Clone repository by copying & pasting URL from repository into RStudio's 'Clone Git Repository' window:
  - ▶ File > New Project > Version Control > Git > Provide URL
- ▶ Now do some work (e.g. add an R script), commit and push changes as follows:
  - ▶ Tools > Version Control > Commit
- ▶ Check files in staging area and press `Commit` Button
- ▶ To commit changes to GitHub, press `Push` Button

## Using GitHub from RStudio (Cont'd)

- ▶ Shortcuts to automate above routines are [here](#)
- ▶ To resolve password issues, follow instructions [here](#).