

# Git and GitHub: A Guide for Economists

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# Outline

The importance of version control

Using version control

Using Git by yourself

Using Git for collaboration

# Introduction

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# Life without version control

You're writing a paper and you have a regression.

- ▶ Advisor 1 tells you to include a certain covariate. You put in lots of work to get the data, clean it, merge it, change the specification, and re-run.
- ▶ Advisor 2 tells you that covariate is dumb. You remove it.
- ▶ Then Advisor 2 changes their mind.

What do you do?

# Life without version control

Do you keep every specification you ever tried?

- ▶ The code too, or just the outputs?
- ▶ What if you discover a coding error that affects many of your specifications?

## Version control 0.1: putting dates on code

## Version control 0.2: Dropbox

A Post It note spotted on a grad student's desk:

*Don't forget! At 10:18 am on November 17th, we changed the specification to add new variable.*

Don't live this way.



## Useful principles

1. You're not going to remember why you did that.
2. Your coauthor can't read your mind.
3. Conserve cognitive effort.
4. "Not one piece of commercial software you have on your PC, your phone, your tablet, your car, or any other modern computing device was written with the 'date and initial' method." (Gentzkow and Shapiro)

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# What's Git?

# What software can I use?

- ▶ GitKraken
- ▶ GitHub Desktop
- ▶ command line, old-school
- ▶ RStudio (for R projects)

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## Commits: logging your changes

Branches: trying things out

## Local vs. remote repo

Git doesn't require a remote repository.

- ▶ If you have restrictions on your code (for example, if you work with confidential health data) you can use Git entirely locally
- ▶ But a remote repository helps you keep things backed up seamlessly



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# Repos

# What's GitHub?