# Applied Social Data Science Coding Camp

Setup · Orientation

Elena Karagianni, PhD Candidate karagiae@tcd.ie



Department of Political Science, Trinity College Dublin

#### Schedule

#### 10am - 1pm

- · Monday: Introduction
- Tuesday: R Basics + Good practices

#### 10am - 12pm

- Thursday: Python basics
- · Friday: How to write up and report LETEX

#### Recap

In the last few days we looked at:

- Some basics of working in R
- Some basics of working in Python
- · Some general good practices to follow when doing data science
  - · Organizing your work
  - · Being consistent in things like object naming

- For your own projects
- For doing your class assignments

- For your own projects
- For doing your class assignments

Today's class is intended to cover the basics and help orient your future learning. We will look at:

- For your own projects
- For doing your class assignments

Today's class is intended to cover the basics and help orient your future learning. We will look at:

- Jupyter Notebook
- · R Markdown
- · MEX

# Jupyter Notebook

- Julia + Python + R  $\rightarrow$  the three languages it was initially designed to work with
  - Now it supports many languages

#### Jupyter Notebook

- Julia + Python + R  $\rightarrow$  the three languages it was initially designed to work with
  - Now it supports many languages
- · Like R Markdown: combine code, results, and commentary in one document

## Jupyter Notebook

- Julia + Python + R  $\rightarrow$  the three languages it was initially designed to work with
  - Now it supports many languages
- · Like R Markdown: combine code, results, and commentary in one document
- · Runs directly in your web browser

#### R Markdown

- · Combine code, results, and commentary in one document
- · Export to many formats: PDF, Word, HTML
- · Create reports, presentations, dashboards, and more



Free and open source



- Free and open source
- Produces professional, consistent documents



- Free and open source
- Produces professional, consistent documents
- Standard in many quantitative academic fields



- Free and open source
- Produces professional, consistent documents
- · Standard in many quantitative academic fields
- Powers outputs in many data science tools

## Why you need **ETEX**

• R Markdown uses ETEX "behind the scenes" to create PDFs.  $\to$  You need a ETEX installation to export PDFs from RStudio.

## Why you need **ETEX**

- R Markdown uses धाट्X "behind the scenes" to create PDFs. → You need a धाट्X installation to export PDFs from RStudio.
- Because R Markdown files can be tricky to debug, in Stats I and II we'll work directly in LTEX.

# Why you need LETEX

- R Markdown uses धा-X "behind the scenes" to create PDFs. → You need a धा-X installation to export PDFs from RStudio.
- Because R Markdown files can be tricky to debug, in Stats I and II we'll work directly in <a href="Markdownfiles.">MTEX</a>.
- Overleaf (https://www.overleaf.com) an online, collaborative MTEX editor

• I recommend: https://yihui.org/tinytex/ for a TeX distribution

(yes, this is how these slides were created!)

# Why you need LETEX

- R Markdown uses धा-X "behind the scenes" to create PDFs. → You need a धा-X installation to export PDFs from RStudio.
- Because R Markdown files can be tricky to debug, in Stats I and II we'll work directly in <a href="Markdownfiles.">MTEX</a>.
- Overleaf (https://www.overleaf.com) an online, collaborative MTEX editor
- · TexStudio a free desktop IDE for 上TEX (https://www.texstudio.org/)
- I recommend: https://yihui.org/tinytex/ for a TeX distribution

(yes, this is how these slides were created!)

#### Any Questions?

This concludes the Coding Camp.



Well done on making it through!

For additional queries: karagiaeatcd.ie