POLI 502 Methods of Political Analysis

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Welcome!

Module Objectives:

1. Become a good political science knowledge "consumer"
  ◦ Read, understand, and evaluate **statistical analyses** published in PS journals
  ◦ Acquire the basics statistical knowledge to become a **future data scientist**
  ◦ Be able to take more advanced courses

2. Become a good political science knowledge "producer"
  ◦ Be able to conduct rigorous quantitative analyses/research
  ◦ Be familiar with basic statistical models
  ◦ **Feel comfortable analyzing data in R**
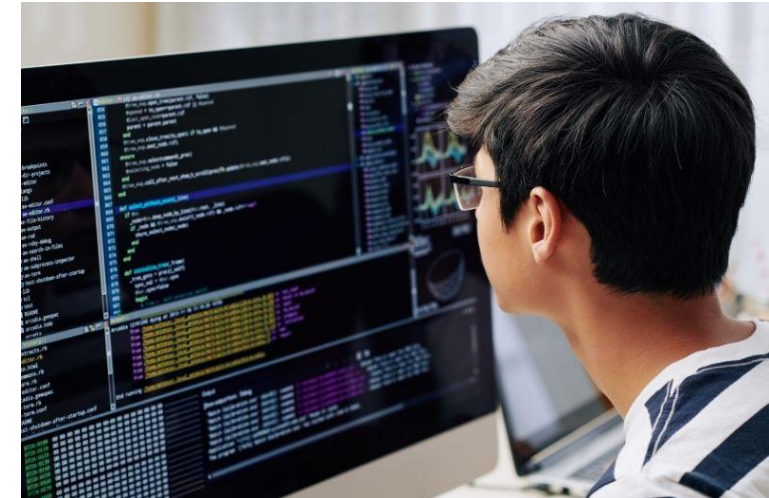
Class Structure

1. Lecture: ~1.5 hour lecture
   ◦ Teach basic knowledge on research design and statistical concepts

2. R session: ~1 hour programming session
   ◦ Teach R programming step by step
   ◦ Answer programming questions
   ◦ Will likely have extra support hours before exams

3. Slack:
   ◦ We don't use email to communicate. Use Slack.
   ◦ Post questions on Slack. Either I or TA or other students will jump in to answer

4. Office hours: Appointment-based
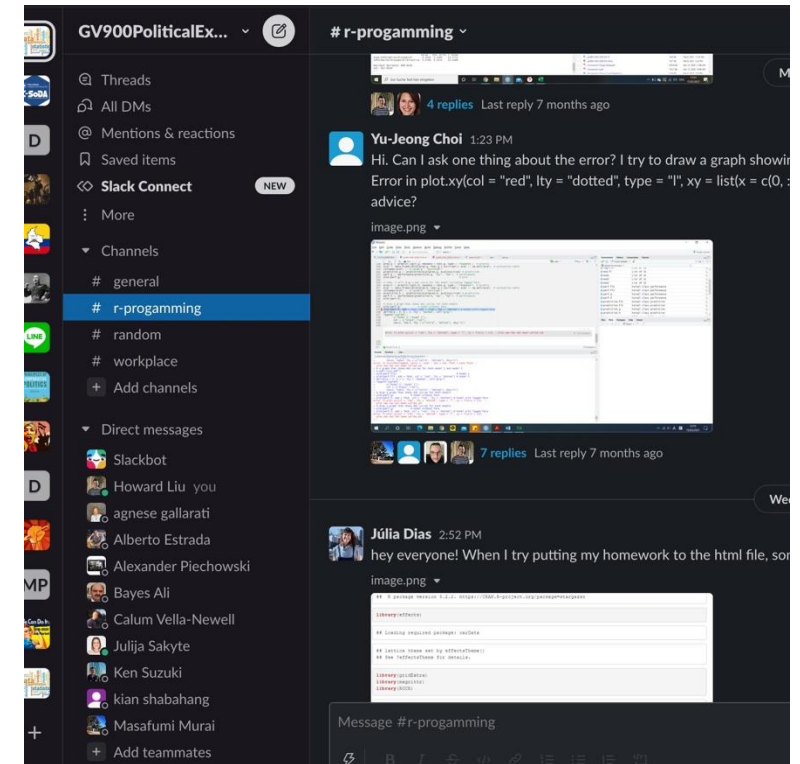
Schedule

Week 1-2 Introduction and logistic

Week 3 Scientific studies overview (quantitative approach)

Week 4 Evaluating theories of politics

Week 5 Measurement

Week 6 Probability I: The basic

Week 7 Probability II : Random variables and distributions

Week 8 Probability III: Central Limited Theorm

Week 9-10 Inference & Hypothesis Testing (bivariate)

Week 11 Inference & Hypothesis Testing (multivariate) …

Schedule

Week 13: Interactive model in regression

Week 14: Nonlinear model in regression

Week 15: Predictive model in regression

Logistics

1. Book (FPSR): The Fundamentals of Political Science Research (Kellstedt and Whitten 2018)
   - 1st or 2nd edition may work

2. Install R and RStudio on your computer
   - Mac: https://www.youtube.com/watch?v=1PsPfMaLWSk
   - Windows: https://www.youtube.com/watch?v=9-RrkJQQYqY

3. Install Latex on your computer
   - Mac: https://www.youtube.com/watch?v=nUuW_8Hy1qA
   - Windows: https://www.youtube.com/watch?v=kSN-gS4SIqc

Logistics

3. Advice: Google is your best friend
- ~~StackOverflow~~ (Q&A platform for programming): https://stackoverflow.com/
- Now, **ChatGPT** is your best friend
- I would advise you to Google/GPT before you ask questions on Slack

4. Slack as our main mode of communication: (join by next week)
- Install tutorial: https://slack.com/help/articles/207677868-Download-Slack-for-Mac.
- Everyone can ask; everyone can answer
- ~~A TA and I will monitor Slack regularly, and you should do the same~~
- You can email me "if" you have time-sensitive matters. For everything else please goes to Slack.
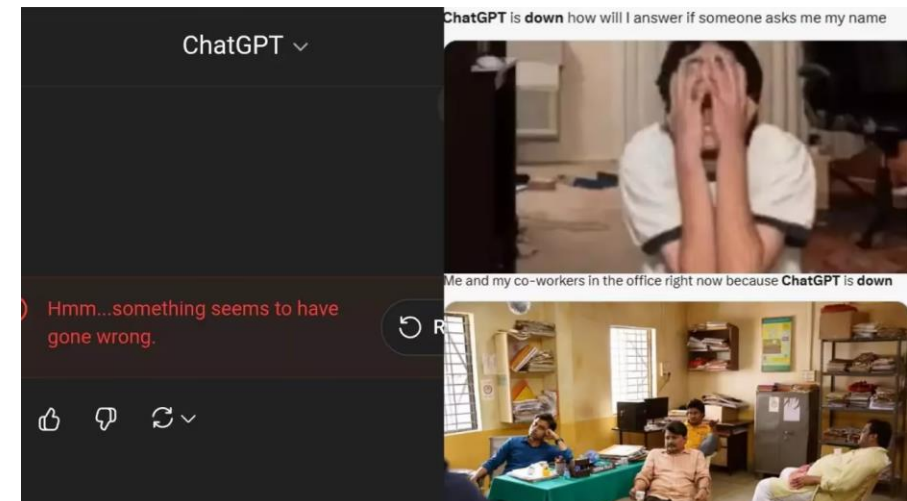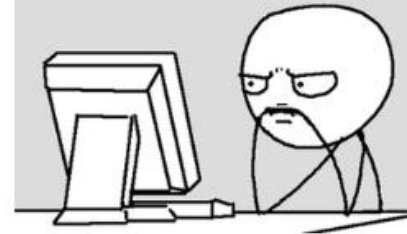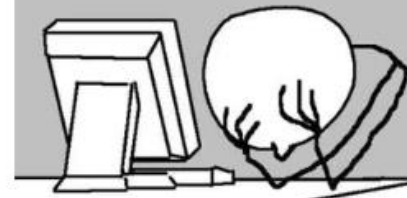
How to properly use ChatGPT

- AI as an assistant, not a replacement for your work

- You still need to understand the basics of programming

- Don't fully trust GPT; it can be wrong and sometimes very wrong if you are not careful

Before Chat GPT
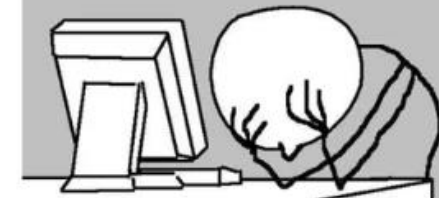* Developer coding - 2 hours
* Developer debugging - 6 hours

After Chat GPT
* ChatGPT generating code - 5 min
* Developer debugging - 24 hours

Plagiarism

Plagiarism in essay writing

- Uses other people's words or the same pattern of words without referencing

Plagiarism in computing codes

- What's okay to do:
  - Work with your classmates but submit your own independent work (code structures and comments are all independent)
  - Don't allow others to copy your code because you will be penalized too
- What's not okay to do:
  - Copy and paste codes from your classmates (I, and text similarity programs I use, can tell by reading the code and repetitively seeing exactly same errors)
  - Simply add a few words in the code comments
  - Simply change an object name from x to x1
  - Suspected cases will be notified and sent to the Academic Offenses Office
 - 2020-2022: 38 individuals, 13 penalties

Assignments and Grades

- Weekly homework submission: pass/fail

- Take home midterm: on syllabus

- Take home final: on syllabus

- Attendance (10%), Weekly homework (20%), Midterm (30%), Final (40%).

Late Submission Policy

- Don't be late. Don't write your code in the last minute.

- Don't accept late submissions more than a week.

- If your submission is later than a week, your mark will be deducted by 10% per day.
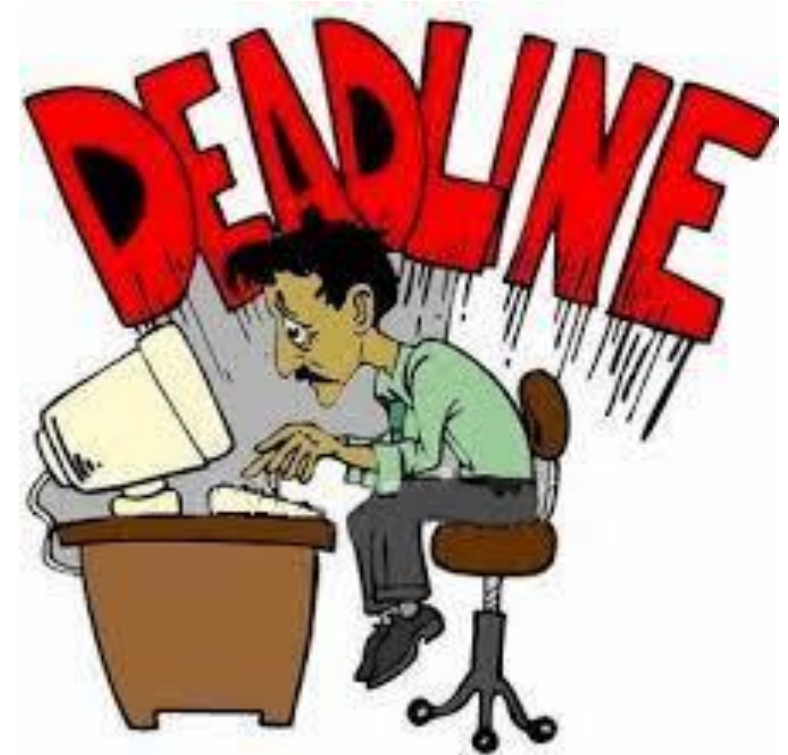
Slack and Support Hours

- Slack ethics:
  - It eases our communication, but don't abuse it: I will reply within 24 hours.
  - If you are helped, help others too: It's how a coding community works.
  - Students can't ask help on the midterm and the final. They should be independent submissions.
  - Respect others' time and show appreciation.

  - Relationship:
    - A part of graduate training is to learn how to build a collegial relationship with your colleagues and classmates, and work together.
    - Helping others is helping yourself

Homework for the First Week

Complete the survey here: https://forms.gle/3tMwiH87AXLD6UTW6

Get R, Rstudio, and Latex installed and ready to be used

Join and say hi 🙋‍♂️🙋‍♀️ on our Slack channel

Email/Slack etiquette: You can just call me Howard, or at least call me Howard

→ Finish the above by the start of next week class

Homework for the First Week

Enjoy the fun in this class!