Economics Summer RA Orientation

Alicia Liu

Swarthmore College

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What will you be doing this summer?

- What is research like?
- What can you take away from research?
- What skills will you develop?
- What community can you expect?
- Econ summer series lunch!
- Prof. Daniel Laurison is hosting workshops for summer research students, click the link here to register and be in the loop!

Organization

- Please do NOT just store things in your Downloads folder/Desktop.
- Organize your files in a way that makes it easy for you to find and use.
- Research file organization: Need a way to separate data files (both raw and clean), outputs, and code.
- Life hack: Clean out your downloads and caches every once in a while... Makes your computer run faster.

Organization pt. 2

- Highly recommend the Gentzkow-Shapiro "raw, temp, code, output" 4-folder system.
- No need to use this specific one, but find something that you are consistent with and that your PI and other collaborators understand!!
- If you're cool, you can use Git for version control. Email me if interested, but this is not necessary!
- Ideally, when you have multiple code files, have a "run" file, or a separate code that will run all of the code in order to produce the final output.

Documentation pt. 1

- Please comment your code! Comment your code for others, including you a few months later.
- Comment to explain your code, comment to organize your code, comment whenever it is useful.
- Whenever you use a new command or learn some new technique, comment it!
- COMMENT! COMMENT! COMMENT!
- For projects and folders, have a "README", or a file that explains what each file in the folder is, what it is used in, where it came from, and what does it do.

Documention pt. 2

- Have some sort of "lab notebook" or some way to track what you did every day for each project.
- I like having a (digital) notebook that briefly summarizes what I worked on (which projects, codes, data), what issues I encountered, what questions I have, etc., and then a project specific notebook.
- Ideally, it would be on a platform that allows for sharing with your collaborators and PI.

Working with your economist

- Research is both solitary and collaborative.
- Research *assistance* is both independent and *still* assistance
- Be proactive in asking questions and asking for direction.
- Feel free to explore yourself, as long as you can explain what you did (and commented it!)
- When presenting results, have the code readily available. Ideally, be able to run everything from the raw data (if it doesn't take too long) to demonstrate your results.
- Ask for feedback!

Working with other RAs

- Talk with your other RAs! Learn from each other, help each other, etc.

Figure: Me and the bois

Coding Tips

- Write all of your code in a code file. Do NOT just put things in a terminal!!
- Google is your friend! Statalist is your friend (even if Nick Cox is not)! Code documentation CAN be your friend!
- ChatGPT and other LLMs can be your friend, in certain languages. For R and Python, likely yes, but not as much in Stata.
- Only use code that you understand.
- In the repository, I will share some coding resources for Stata, R, using ChatGPT, and LaTeX.

Presenting Results

- How to present results?
- Can use slides, Beamer (if you have equations/code)
- .md and .qmd can present both code and output. Works best for R generally.
- Highly recommend something like Jupyter notebooks for Python

General Resources

- Each other!
- Your professor!
- The internet!
- Swarthmore specific resources:
    - Strelka Computer Cluster
    - Swarthmore ITS Software Base

Repository Resources

- HERE is a repository for this orientation
- Contains every resource I've mentioned today and then some more!

End of summer

- Other Swat research opportunities: Can continue working as an RA during the semester for hourly pay or credit,
- Non-Swat Research: Fed Reserve, UChicago EPIC Lab,
- Non-Swat non-research: econ consulting, other parts of gov't, think tanks (Brookings), CEA/Treasury/CFPB,
- If you are a rising senior and are interested in applying to research assistant/predoc positions before grad school, feel free to email me at alicialiu2852@gmail.com