

Research opportunities: Maximizing your chances of a successful application

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Outline

1. Types of opportunities
2. Benefits of research experience
3. Faculty demand for research help
4. Informational asymmetries
5. Applying: student supply of information
6. Q & A

Research opportunities at SU for econ undergrads

Workshops, information and training

- ▶ ESA workshops (like this one!)
- ▶ SOURCE workshops
- ▶ Young Research Fellows Program
- ▶ McNair Scholars Program

Research assistant positions

- ▶ Helping a professor with their research project(s)
- ▶ Typically funded through SOURCE or other grants that faculty members apply for
- ▶ Professors skeptical of non-paid, non-credit arrangements

More research opportunities at SU

Supervision of independent projects

- ▶ Distinction program in economics
- ▶ Honors, SOURCE, Thompson-Burkhead, etc.
- ▶ Independent study course

Some centers/institutes on campus hire RAs, such as

- ▶ Maxwell X Lab
- ▶ Lender Center for Social Justice
- ▶ Autonomous Systems Policy Institute

Research opportunities outside SU

List of training programs curated by the AEA & CSMGEP

Research assistant positions (“Pre Docs”)

- ▶ Professors at other universities hire people just out of undergraduate studies ([#EconTwitter](#) and [NBER list](#))
- ▶ Federal Reserve Banks
- ▶ Think tanks & NGOs (e.g. Peterson Institute, World Bank)
- ▶ Economics consulting firms

What is actually involved in a research experience?

Lots of variation

1. Documentation!!!
2. Finding, cleaning, exploring and summarizing data
 - ▶ Can be mostly manual
 - ▶ or highly technical
 - ▶ or both
3. Statistical analysis
4. Literature review and other summaries, writing

Finding opportunities at SU

1. Handshake
2. [ESA mailing list](#)
3. [My mailing list](#)
4. Generate opportunities through relationships with professors

Who benefits from undergraduate research experience?

People who want to:

- ▶ do a Ph.D. (especially in economics)
- ▶ explore whether they want to do a Ph.D.
- ▶ do independent research
- ▶ do a masters in economics
- ▶ work in an economic analyst position

How would a research experience fit with your goals?

- ▶ What type of experience?
- ▶ Do you need to set up a progression of experiences?

Costs v. benefits

Will the benefits of bringing an RA onto this project outweigh the costs?

- ▶ Benefits: more work will get done
- ▶ Costs: salary and time (for training, providing guidance, coordinating and managing)

Maybe more important: uncertainty about both benefits and costs (your professors are not risk neutral individuals!)

In other words: What are my best guesses at the investment I will have to make versus the payoff? How bad will it be if it's bad? Am I under deadline?

Low cost / high benefit characteristics

- ▶ Skilled / clever
- ▶ Motivated
- ▶ Careful
- ▶ Good communicator
- ▶ Curious
- ▶ Reliable
- ▶ Hardworking
- ▶ Honest

Asymmetric information

You know more about yourself than the professor does

Various ways to communicate (send signals) about yourself:

- ▶ Listing skills / experience / characteristics on resume
 - ▶ It's good to summarize on resume, but talk is cheap!
 - ▶ Need to send costly signals or verification
- ▶ Narrative in cover letter
- ▶ Hard evidence of skills / experience / characteristics
- ▶ Recommendation from someone credible

Resume

Summary of skills and experiences

- ▶ List relevant learning, e.g. workshops, jobs, classes
 - ▶ ECN B.S. strictly preferred to B.A.
- ▶ List your relevant skills, e.g. software, languages

What's most likely to be relevant?

- ▶ Read job posting carefully
- ▶ Things that demonstrate items on the list of characteristics (2 slides back)
- ▶ Things that demonstrate the items on the next few slides

Cover Letter

1. Read their papers, show interest in what they do
2. Relate what they care about to your goals
3. Describe *why* you're interested in the opportunity
4. Tell more about your relevant learning, e.g. SOURCE workshops, jobs, classes
 - ▶ Especially *why* you did it
 - ▶ See top of Slide 3 and recommendations on next few slides
5. Tell how you **will** prioritize their work and be reliable

Hard evidence (1)

1. Classes with good grades

- ▶ Statistics
 - ECN 521/522 as early as possible
 - Could take MAT 221/222 earlier
- ▶ Data Science, e.g.
 - IST 387: Introduction to Applied Data Science
 - IST 414: Data Driven Inquiry
 - IST 421: Information Visualization
- ▶ Coding, e.g. CIS 252: Introduction to Computer Science
- ▶ Math: 295/296; 397; 331; 412
- ▶ WRT 205: Critical Research and Writing

Hard evidence (2)

1. Classes with good grades
2. Certification in statistical software
 - ▶ [Excel](#) is good first step, free to Maxwell students
 - ▶ Stata and R are most widely used among economics faculty
 - Workshop #3: Research Tools Technical Training; Friday, April 8th from 2-3:15pm in Maxwell Auditorium
 - [Tutorials and resources](#) on ESA's website
 - R on Coursera
 - LinkedIn Learning is free for SU
 - Could also look on Udemy, Udacity, EdX
 - DataCamp, Pluralsight (not sure about certificate)
 - ▶ Any proof of coding / stats skill (Python, SPSS, etc.) is valuable

Hard evidence (3-4)

1. Classes with good grades
2. Certification (Excel, Stata, R, etc.)
3. Something you've done on your own
 - ▶ Do free course or on-line training (no certificate) but do a short project using the skills, e.g. a [Shiny App](#)
 - ▶ [Github repo](#) with small project
 - ▶ Frank DiTralia's [Econ 224 course materials](#)
 - ▶ <https://empirical-methods.com/>
 - ▶ Knowledge of LaTeX impresses, but lower impact than statistical software
4. Something you produced in a class or job

Recommenders

1. Build relationships with faculty
 - ▶ Get advice similar to what I've told you, but specialized to your interests
 - ▶ This can generate opportunities personal to you that otherwise wouldn't have existed
 - ▶ We have to expend social capital to recommend you
2. Attend these ESA workshops
3. Work experiences (high school, internships, campus job, community work)

Questions?