

Virtual Undergraduate Town Hall FAQ
Getting Involved in Undergraduate Research
Speaker: Katherine-Sittig Boyd, Host: Gail Murphy
12/1 at 7pm ET

How did your REU projects come about? Were you given a team to work with?

- It varied by the project. For the first project (gestures) there was a team of people, and we had a blank slate; our mentor said, “Study what you want”. We thought about something related to biology or epidemiology, we ended up talking about HCI, body language, and then gestures. Our mentor knew someone that was working on a gesture quantification method and they hadn’t tested it out yet. We as a research group decided on the topic. In the DREU program, I showed up and the mentor who I was paired with told me what research they were working on and we figured out together what I could work on throughout the summer. In regards to the Clinical Narrative project, my mentor organized the event (i2b2: Integrating Biology and the Bedside) that led to the data set.

What should I include in my personal statement/application if I don’t have previous research experience?

- I applied to CREU with no research experience; it is similar to writing for DREU. Think about what you want to study, even if it is as simple as knowing what you don’t want to study. You can look at past CREU/DREU projects. Gauge your interest as you read through the different projects. You can also read through scholarly articles, like I did. As long as you show genuine enthusiasm and an understanding of where the field is right now, then you can write a solid personal statement.

Was it difficult to design a research project from scratch?

- Transparency is key—it’s important that people understand what data is being collected and what it means. It is hard to know what can be inferred from your data, although sometimes it can come naturally. However, there can be difficulties, so you may have to consider the approach you are using: is it effective? Do you have a large enough data set? Is it within scope?

Would you recommend that a student get involved in research that they may not have an actual interest in, so they can gain research experience, in general?

- I would say that as someone who has done research that I was not very interested in, I didn’t like it much, but I learned a lot. If you can stay focused on something that you don’t like, I say go for it, but it comes down to personal decisions. If there are not a lot of research opportunities definitely reach out to the ones that are available. It will also help you hone in on your interests.

How did you choose which projects/advisors you worked on/with?

- Simmons has three computer science professors, so there was a limited choice. In my third year I was interested in natural language processing, and I chose my mentor (CREU) based on the mentor’s focus and research areas. For DREU it was out of my hands—I was paired with professors based on my research interests.

What was a typical work-week for you during your REU experiences? How much time did you dedicate to your CREU (academic-year long) project a week?

- It depends on the project. During the gesture project -we spent the first semester working on adapting the annotation system. We would look at videos of academic lecturers, and we annotated their gestures for hours. The second part of the year, we spent most of our time designing the test cases. We wrote an experiment in which people had to explain how to play solitaire to see if it would elicit a certain category of gesture. We spent some time figuring out what would elicit the data we needed and we tried the experiment ourselves. For the clinical narratives project we did a lot of reading of medical journals and then a good deal of programming.
- I was able to take the class as an independent course credit. You are expected to spend 10-15 hours a week working on research for CREU. I never felt that it got in the way of my coursework. I made sure to carve out time out of my week for the project.



What course background did you have when you asked to get involved in research? What courses were most useful?

- When I was asked to participate in research my first year, I had already taken C++ in high school and a Python course in college. After research I had intro to Java and Python - intro programming, object oriented programming, and so on. While I was in CREU as a sophomore, I was in Computer Organization and Architecture. But I had a little programming experience, and that was fine. When I got to my DREU summer experience, I had a few classes of programming and data structures, which has been the most helpful class I have taken (Data Structures). A programming language or two and Data Structures is a good base.

What were the big differences between the CREU and DREU programs, for you?

- Big differences between CREU and DREU - first and foremost it was a matter of time! CREU was a long-term project (over a year or so) while DREU of course was over a matter of a summer. I actually liked DREU a lot because I worked in a lab for a full week and didn't have my attention among other classwork. CREU is more of a balancing act, while DREU is really focused.

What is one tip that you would give someone that is currently thinking about participating in a DREU or CREU research program, or any REU?

- Stay open-minded about what you want to research, but if you think you might be interested in a particular topic/area, look into what's being researched currently! That way when you write a proposal or personal statement you really come across as knowledgeable about the subject, and mentors/professors will notice that.

What is one tip that you would give someone that is currently participating in undergraduate research that might be struggling with the topic or time management?

- As far as time management-sometimes you might have to look at other commitments and gauge how important research is in comparison. For instance, I had to step down from a leadership position in a club in order to make time for research. I recommend setting aside a certain amount of time each day to do a little bit of work on the project rather than waiting till the last minute to work on it.
- As far as topics go, that can be harder to address, since it can be really difficult to stay motivated when you aren't interested in what you're working on-or if you feel that the project has gone off the rails a little more. I suggest looking back at any original goals you had and seeing if you can address them, or trying to look at the project from a perspective that you might find more engaging (looking at health records from a scientific perspective rather than a language one, for instance) or working on a side project related to the project that draws your attention more; often you can get more engaged if you work on something that interests you!

How much of what you learned from your research experience do you use in your everyday work life?

- I've actually used a lot of what I learned in research on a daily basis! The most important one I think is that I am almost never daunted by issues of odd data -- "uncleaned" data, results not matching up, etc. I also learned a lot about data storage and data manipulation, which helps in my current position as... a data analyst! How many times can you say "data" in one sentence?

How did you figure out what research area you were interested in? Was it from participating in undergraduate research? Talking to professors?

- Well, it started out that I was interested in anything! But I had also always been drawn to language, so when I had the chance to get involved with computational linguistics in any way I jumped at the opportunity.

What first interested you in language? Also how did you know CS was the right degree path?

- I grew up writing and have always been drawn to words, so it feels a bit innate/hard to define exactly where that interest stems from, but I was also fascinated by finite state automata and wanted to look into that sort of thing more-show translation works, how to extract meaning from what is essentially a collection of characters, and so on. I was able to do some projects in data structures that also focused on corpus linguistics, and really enjoyed them, so I looked into that sort of thing more. As for why I chose CS-I actually came into college as an Economics/English double major and then learned C++ right before I graduated high school, LOVED IT, and wanted to do more with computer programming. I took intro programming in my first semester and from then on I was hooked. But part of why I stayed with it is that it's so cool to be able to combine CS with virtually any other field-computers can augment a LOT of different areas of work.