Data and Community Science: Getting minoritized undergraduates into the field of Data Science for Public Interest

Learning Diary Prompts

A learning diary is a tool for reflection on what is heard, discussed, read or experience. It involves reflecting, asking questions, and finding answers. A learning diary is not a paper or a summary of the topics and contents of lectures. The goal is for you to describe your own experience, and how that experience supports your personal growth. In other words, this is a tool for your self-direction and assessment.

The purpose is for you to reflect on how and what you have learned, and writing in your diary also serves as a way to clarify concepts, raise issues, and develop theories.

Week 1

Beginning of the week

- Why did you apply for this program?
- What are you expecting from this experience? What do you hope to gain from participating in this course?
- What would you like to learn (more) about?

End of the week

- What were the topics of the session?
- What did you learn? What was new / what was complementary or overlapping with your previous studies? Was there something that changed your views, and why?
- What amazed, inspired or confused you? What did you not understand or what left you puzzled?

Interview practice questions

These are Google interview questions. No worries if you don't know the "correct" answer, we will be discussing these in our mentorship meetings.

- What is an IDE? Would you recommend that someone learning statistical coding use one?

University of Arizona, Adriana Picoral

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- What are the advantages of using a version control system like git?
- What is reproducible data analysis? What are some of its benefits?
- If you're stuck on a coding problem, where would you look for answers or seek help?
- You are joining data with phone numbers are an identifier and you find that people have entered their phone numbers with different formats: some with dashes, some with parentheses, and some with spaces. What do you do?
- I calculated the mean age of the people in my data using a programming language, and the answer came back as N/A. What might have happened, and what could I do to solve this?
- Using any programming languages, what are some of the basic functions you can use to clean and organize a data table?

Week 2

- What was the main thing you learned? What do you think was most significant? Why?
- Did your perception of things change so far? How?
- What did you not really understand? Why?
- How can you make use of the information and opinions you receive?

Interview practice questions

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- Ensuring data is free from bias is an essential part of creating valid insights. What are some sources of bias that you should consider when evaluating data sources?
- To understand why customers are unhappy with service at a grocery store, analysts install hidden microphones at each register to record conversations. They then use information from loyalty cards to email offers to entice people back to the store. Do you see any issues with this?

Week 3

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- What was the main thing you learned? What do you think was most significant? Why?
- What have you learned from your group mate?
- What have you changed or incorporated in your coding workflow?

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- What are some of the key features of a data frame?
- Analysts often work on collaborative, cross-functional teams. What are some steps you might take to share a data cleaning process and summarize the results?
- When is it useful to connect internal data to external data? For example: What might we find out by connecting soda sales to weather data?

Week 4 and 5

- What are the challenges you predict you will face related to the water level pool classification problem you will be working?
- What skills do you already have to solve the problem?
- What skills will you have to learn to solve the problem?

Week 6

- What approaches are you thinking of taking to your specific project (water pool OR bird count)?
- What strategies are you using for collaborating with your partner?