

- Due May 23, 2023 at midnight PST. Please submit through Canvas.

NOTE: If you used chatGPT to help you understand the concept/answer the questions, please attach the prompt and the output and your evaluation of the output as supplement material. You may also want to compare chatGPT with Wikipedia if you look up specific terminology.

Reading papers:

1. Reading :<https://www.biorxiv.org/content/10.1101/2022.10.07.511320v1>

Q.0 (3 points) Please explain at least three terms/jargon you are not familiar with but important to understand the paper.

Q.1 (2 points) Please describe (in English words) what problem this paper is trying to solve?

Q.2. (3 points) Please describe the computational problem that the paper is solving, and describe (in English words) how they solve it.

Q3. (3 points) Please describe what is shown in Figure 1, what do the points represent in Panel a? Explain the panel e,h.

Q.4. (2 points) Please explain how Tilted-CCA can be used to get a measure of how much of each feature's variation lies in the common space versus the modality distinct space.

Q.5. (2 points) Please explain how the authors consider using Tilted-CCA to design a panel of antibodies that provide information complementary to RNA. How does using this method to do so compare to the alternate methods that the authors mention?

Q.5 (2 points – optional) What do you think is the most impressive result in the paper and why?