Prelab: GenAI for Graphical Abstracts

See accompanying slides.

Activity 1 - Google Gemini

Part 1 - Generate Graphical Abstract

Instructions

1. Access Google Gemini via gemini.google.com
    - Gemini uses Nano Banana for image generation
2. Ask Gemini to generate an image using Prompt #1 (see below)
    - For Prompt #1, we start with the entire abstract from Sleator 2008
    - Preface this text with a specific ask: “Create a graphical abstract image based on the scientific abstract below:”
3. Answer questions below

Questions

1. Copy and paste your Prompt #1 in the box below.
Prompt #1

2. Copy and paste the generated image in the box below.
Image #1

3. Evaluate the graphical abstract that resulted from your Prompt #1.	
Evaluation	**Your Answer**
Did the image convey the content of the abstract well? Explain.	
Describe/critique the graphical abstract.	
What is one thing you would change about the graphical abstract?	

Part 2 - Adjust Style

Instructions

1. Identify aspects of style you may want to change about the resulting graphical abstract above, for example:
    - Lighter or darker background
    - More or less labels or text
    - Specific color changes
    - Other
2. Use the graphical abstract you created in Part 1 as input for Prompt #2, and engineer your prompt to also include style modifications of interest
3. Enter Prompt #2 to generate a second graphical abstract

Prompt# 2 Example: Modify the style of the above graphical abstract image by reducing dead space, making the image darker, and individual image parts bigger.

Questions

1. Copy and paste your style-modifying Prompt #2 in the box below.
Prompt #2

2. Copy and paste the revised image in the box below.
Image #2

3. Evaluate the revised graphical abstract.	
Evaluation	**Your Answer**
How did the revised graphical abstract improve in quality, good and bad?	
What would you change to make this graphical abstract better?	

Part 3 - Enhance Content

Instructions

1. Identify a detail that was not conveyed by the graphical abstract, but that interested you from your reading of the Sleator 2008 review.

- e.g. Something conceptual: Metagenomics helps uncover unknown microbial diversity in a complex environment by circumventing the unculturability of most microbes.
- e.g. Something of niche focus: Something you learned about a specific environment mentioned, such as the Sargasso Sea was a good start for metagenomic inquiry because it contains a fairly simple microbial community.

2. Use the graphical abstract you created in the Part 2 as input for Prompt #3, and engineer your prompt to also include content addition of interest.
3. Enter Prompt #3 to generate a third graphical abstract.

Prompt #3 Example: Modify the above graphical abstract image by emphasizing that metagenomic approach can significantly enhance our understanding of the unknown microbial diversity in a complex environment by circumventing the unculturability of most microbes.

Questions

1. Copy and paste your content-modifying Prompt #3 into the box below.
Prompt #3

2. Copy and paste the second revised image in the box below.
Image #3

3. Evaluate the second revised graphical abstract.	
Evaluation	**Your Answer**
How did the second revised graphical abstract improve in quality, good and bad?	
What would you change to make this graphical abstract better?	

Activity 2 - Your Choice

Instructions

1. Access a different GenAI tool of your choice. Some suggestions include:
   - ChatGPT via chatgpt.com
   - Microsoft Copilot via copilot.microsoft.com

- Institutions like JHU offer enterprise access by signing in using "Continue with Microsoft" (e.g. username@jh.edu)

2. Generate one final graphical abstract using your **original** Prompt #1 from Activity 1.

Questions

1. Which GenAI tool did you use in this activity? Tool

2. Copy and paste the image generated by a different tool in the box below. Image

3. Which of the two graphical abstracts better reflects the ideas in the paper and why? Answer

Grading Criteria

- Download as Microsoft Word (.docx) and upload on Canvas

Footnotes

Resources

- Google Doc

Contributions and Affiliations

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