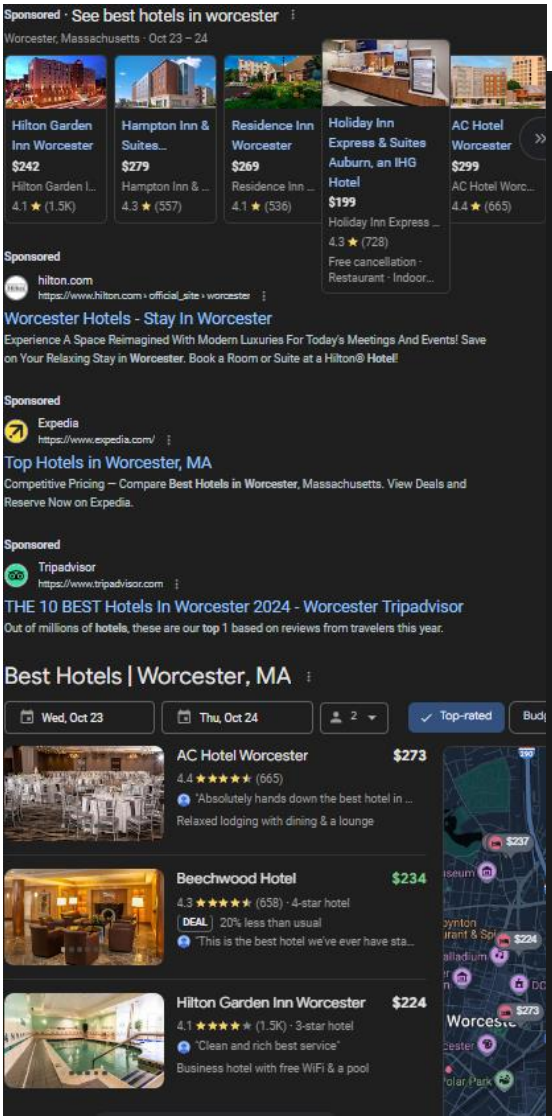
Information Retrieval

Assignment-3

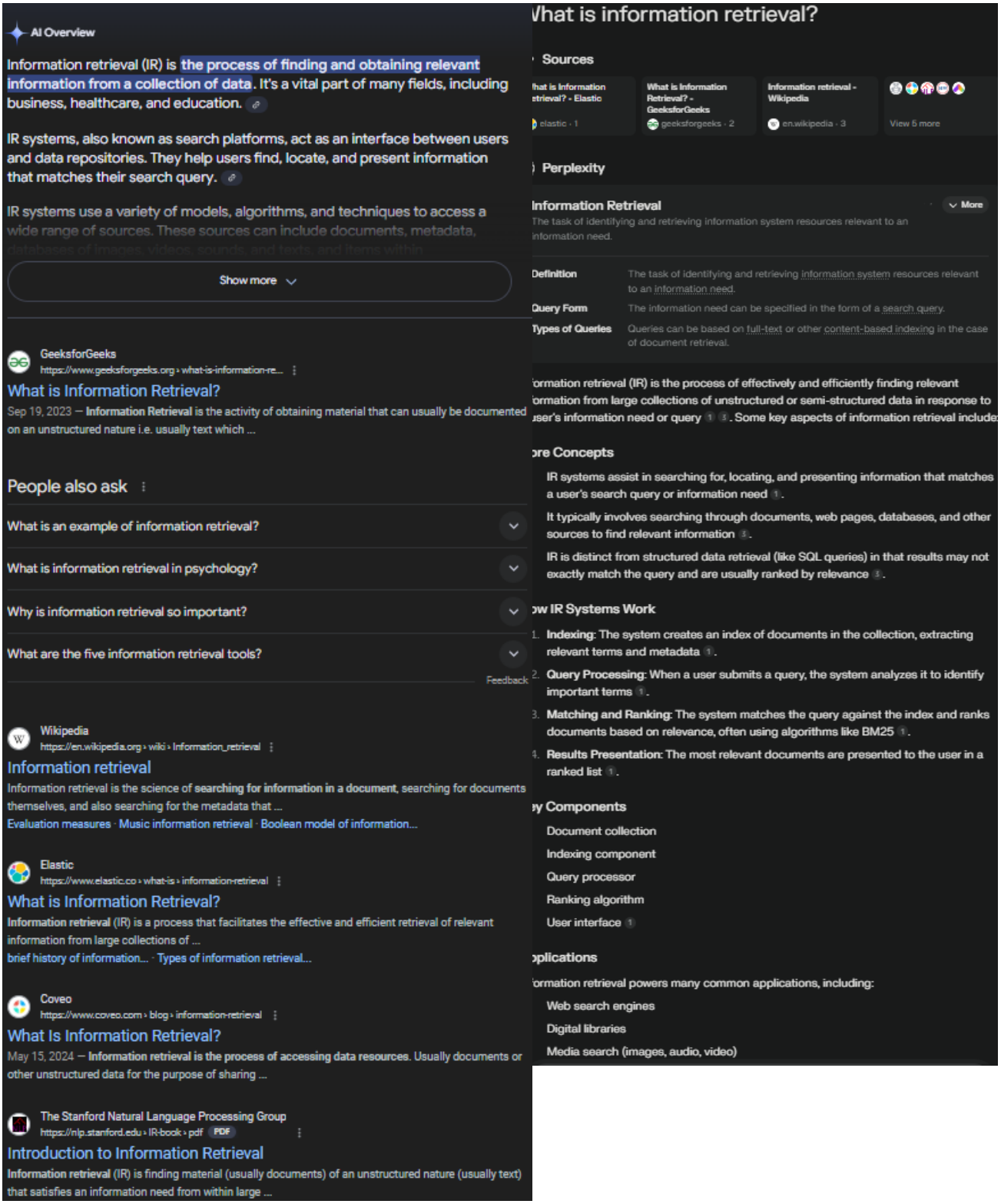
Ques. In this assignment, you will compare traditional search engines (e.g., Google, Bing) with generative AI-based search engines (e.g., perplexity.ai and you.com). Specifically, you'll need to try at least three different search queries, report which queries you used, and assess the pros and cons of both types of search engines. Finally, provide a conclusion on when it is most appropriate to use traditional search engines vs. generative AI-based search engines.

Ans. For this assessment, I'll be using Google as the traditional and Perplexity.ai as the AI-based search engine to compare the results that are provided based on the given query search, and then find out the pros and cons.

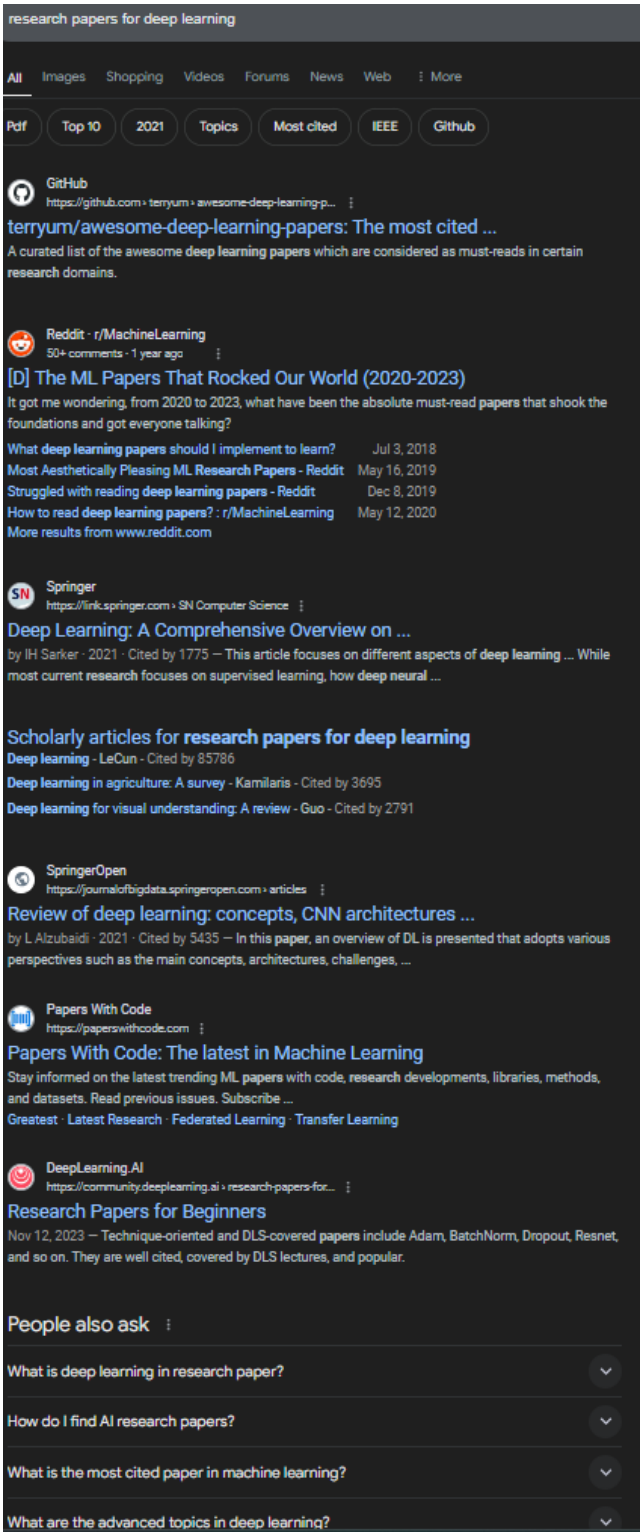
1. Query "Best hotels in Worcester"

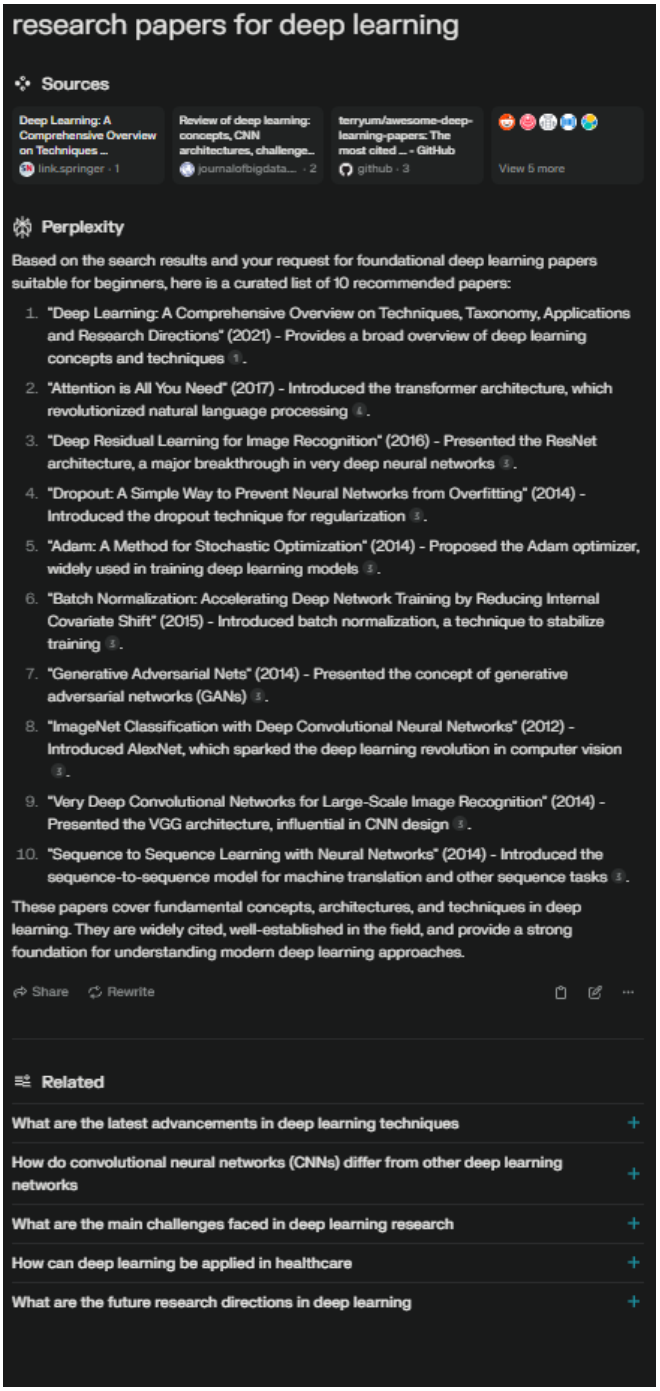


2. Query “What is information retrieval?”



3. Query “Research papers for deep learning”





Query 1: "Best hotels in Worcester"

Traditional Search Engines:

Pros: Google and Bing will provide detailed, localized results, often including reviews, price comparisons, and direct booking options. Maps integration and user ratings make it easier to evaluate options.

Cons: It might take some time to go through reviews or check multiple sites for booking options.

Generative AI-Based Search Engines:

Pros: These engines may give you a quick summary of popular hotel options with pros and cons of each, saving you time if you just want general recommendations.

Cons: They may not provide real-time availability, pricing, or detailed user reviews, which are critical for making decisions about booking.

Query 2: "What is information retrieval?"

Traditional Search Engines:

Pros: You'll likely get links to definitions, tutorials, and Wikipedia articles that explain the concept in detail. These sources are usually well-structured and come from reliable educational sites.

Cons: The user has to go through multiple links to find the best explanation suited to their need, requiring more time to compare information.

Generative AI-Based Search Engines:

Pros: Give a clear and concise definition or explanation in one go, without the need to visit multiple sites.

Cons: The information might not be sourced from high-quality academic references.

Query 3: "Research papers for deep learning"

Traditional Search Engines:

Pros: Google and Bing will likely return a mix of academic articles (e.g., Google Scholar results), blogs, and research repositories like IEEE. We'll find a range of sources with links to download or read full papers.

Cons: You may need to go through the results to find exactly what you need, and accessing full papers may require subscriptions or institutional access.

Generative AI-Based Search Engines:

Pros: These search engines will likely summarize key findings from various papers, making it easier to get a quick overview of the field. They might also recommend papers without needing to click on each link.

Cons: Don't provide direct access to the actual papers or links to authoritative sources, which can be limited for academic purposes.

Conclusion:

1. Traditional Search Engines are best for:
    - Academic research or cases where detailed information, citations, and direct access to reliable sources are essential.
    - Localized searches like finding restaurants or hotels where user reviews, prices, and real-time data are critical.
2. Generative AI-Based Search Engines are best for:
    - Quick overviews, summarizations, and casual research where you want concise information without having to navigate through multiple websites.
    - General inquiries where in-depth analysis is not the main concern.