

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"


Sponsored · See best hotels in worcester · Worcester, Massachusetts · Oct 23 - 24




Hilton Garden Inn Worcester
\$242
4.1 ★ (1.5K)




Hampton Inn & Suites Worcester
\$279
4.3 ★ (557)



Residence Inn Worcester
\$269
4.1 ★ (536)



Holiday Inn Express & Suites Auburn, an IHG Hotel
\$199
4.3 ★ (728)
Free cancellation · Restaurant · Indoor...



AC Hotel Worcester
\$299
4.4 ★ (665)

Sponsored
hilton.com
https://www.hilton.com/official_site/worcester
Worcester Hotels - Stay in Worcester
Experience A Space Reimagined With Modern Luxuries For Today's Meetings And Events! Save on Your Relaxing Stay in Worcester. Book a Room or Suite at a Hilton® Hotel!

Sponsored
Expedia
https://www.expedia.com/
Top Hotels in Worcester, MA
Competitive Pricing — Compare Best Hotels in Worcester, Massachusetts. View Deals and Reserve Now on Expedia.

Sponsored
Tripadvisor
https://www.tripadvisor.com/
THE 10 BEST Hotels In Worcester 2024 - Worcester Tripadvisor
Out of millions of hotels, these are our top 1 based on reviews from travelers this year.

Best Hotels | Worcester, MA


Wed, Oct 23

Thu, Oct 24


2

Top-rated


Budg




AC Hotel Worcester
4.4 ★★★★★ (665)
"Absolutely hands down the best hotel in ...
Relaxed lodging with dining & a lounge



Beechwood Hotel
4.3 ★★★★★ (658) · 4-star hotel
DEAL | 20% less than usual
"This is the best hotel we've ever have sta...




Hilton Garden Inn Worcester
4.1 ★★★★★ (1.5K) · 3-star hotel
"Clean and rich best service"
Business hotel with free WIFI & a pool




best hotels in worcester


🔍 Sources




Premier Inn
yelp · 1



Diglis House Hotel
yelp · 2



Fownes Hotel
yelp · 3



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🧠 Perplexity

Here are some of the best hotels in Worcester, Massachusetts, based on recent reviews and amenities offered:

Top Hotels in Worcester

- Hampton Inn & Suites Worcester**
 - Rating:** 4.5
 - Highlights:** Free airport shuttle, heated saltwater indoor pool, complimentary breakfast.
 - Location:** Conveniently located near downtown and major attractions 9 11.
- Beechwood Hotel**
 - Rating:** 4.5
 - Highlights:** Luxury accommodations, upscale dining options, and a beautiful setting near Lake Quinsigamond.
 - Features:** Offers event hosting services and modern amenities 10 11.
- Hilton Garden Inn Worcester**
 - Rating:** 4.0
 - Highlights:** Close to DCU Center, on-site restaurant, fitness center.
 - Location:** Ideal for both business and leisure travelers 9 11 15.
- AC Hotel by Marriott Worcester**
 - Rating:** 4.0
 - Highlights:** Modern design, fitness center, and a shared lounge.
 - Location:** Near downtown attractions and cultural sites 11 12.
- Homewood Suites by Hilton Worcester**
 - Rating:** 4.0
 - Highlights:** All-suite hotel with kitchen facilities, complimentary breakfast, and close proximity to local attractions.

2. Query “What is information retrieval?”

AI Overview

Information retrieval (IR) is **the process of finding and obtaining relevant information from a collection of data**. It's a vital part of many fields, including business, healthcare, and education.

IR systems, also known as search platforms, act as an interface between users and data repositories. They help users find, locate, and present information that matches their search query.

IR systems use a variety of models, algorithms, and techniques to access a wide range of sources. These sources can include documents, metadata, databases of images, videos, sounds, and texts, and items within

Show more

GeeksforGeeks

<https://www.geeksforgeeks.org/what-is-information-re...>

What is Information Retrieval?

Sep 19, 2023 – Information Retrieval is the activity of obtaining material that can usually be documented on an unstructured nature i.e. usually text which ...

People also ask

- What is an example of information retrieval?
- What is information retrieval in psychology?
- Why is information retrieval so important?
- What are the five information retrieval tools?

Feedback

Wikipedia

https://en.wikipedia.org/wiki/Information_retrieval

Information retrieval

Information retrieval is the science of searching for information in a document, searching for documents themselves, and also searching for the metadata that ...

Evaluation measures · Music information retrieval · Boolean model of information...

Elastic

<https://www.elastic.co/what-is/information-retrieval>

What is Information Retrieval?

Information retrieval (IR) is a process that facilitates the effective and efficient retrieval of relevant information from large collections of ...

brief history of information... · Types of information retrieval...

Coveo

<https://www.coveo.com/blog/information-retrieval>

What Is Information Retrieval?

May 15, 2024 – Information retrieval is the process of accessing data resources. Usually documents or other unstructured data for the purpose of sharing ...

The Stanford Natural Language Processing Group

<https://nlp.stanford.edu/IR-book/pdf/PDF>

Introduction to Information Retrieval

Information retrieval (IR) is finding material (usually documents) of an unstructured nature (usually text) that satisfies an information need from within large ...

What is information retrieval?

Sources

- What is Information retrieval? - Elastic
- What is Information Retrieval? - GeeksforGeeks
- Information retrieval - Wikipedia

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Perplexity

Information Retrieval

The task of identifying and retrieving information system resources relevant to an information need.

Definition	The task of identifying and retrieving information system resources relevant to an information need.
Query Form	The information need can be specified in the form of a search query.
Types of Queries	Queries can be based on full-text or other content-based indexing in the case of document retrieval.

Information retrieval (IR) is the process of effectively and efficiently finding relevant information from large collections of unstructured or semi-structured data in response to user's information need or query. Some key aspects of information retrieval include:

Core Concepts

- IR systems assist in searching for, locating, and presenting information that matches a user's search query or information need.
- It typically involves searching through documents, web pages, databases, and other sources to find relevant information.
- IR is distinct from structured data retrieval (like SQL queries) in that results may not exactly match the query and are usually ranked by relevance.

How IR Systems Work

- Indexing:** The system creates an index of documents in the collection, extracting relevant terms and metadata.
- Query Processing:** When a user submits a query, the system analyzes it to identify important terms.
- Matching and Ranking:** The system matches the query against the index and ranks documents based on relevance, often using algorithms like BM25.
- Results Presentation:** The most relevant documents are presented to the user in a ranked list.

Key Components

- Document collection
- Indexing component
- Query processor
- Ranking algorithm
- User interface

Applications

Information retrieval powers many common applications, including:

- Web search engines
- Digital libraries
- Media search (images, audio, video)

3. Query “Research papers for deep learning”

research papers for deep learning

All

Images

Shopping

Videos

Forums

News

Web

More

PDF

Top 10

2021

Topics

Most cited

IEEE

Github

Github

https://github.com/terryum/awesome-deep-learning-p...

terryum/awesome-deep-learning-papers: The most cited ...

A curated list of the awesome deep learning papers which are considered as must-reads in certain research domains.

Reddit · r/MachineLearning

50+ comments · 1 year ago

[D] The ML Papers That Rocked Our World (2020-2023)

It got me wondering, from 2020 to 2023, what have been the absolute must-read papers that shook the foundations and got everyone talking?

What deep learning papers should I implement to learn?

Jul 3, 2018

Most Aesthetically Pleasing ML Research Papers - Reddit

May 16, 2019

Struggled with reading deep learning papers - Reddit

Dec 8, 2019

How to read deep learning papers? : r/MachineLearning

May 12, 2020

More results from www.reddit.com

Springer

https://link.springer.com/SN Computer Science

Deep Learning: A Comprehensive Overview on ...

by IH Sarker · 2021 · Cited by 1775 — This article focuses on different aspects of deep learning ... While most current research focuses on supervised learning, how deep neural ...

Scholarly articles for research papers for deep learning

Deep learning · LeCun · Cited by 85786

Deep learning in agriculture: A survey · Kamilaris · Cited by 3695

Deep learning for visual understanding: A review · Guo · Cited by 2791

SpringerOpen

https://journalofbigdata.springeropen.com/articles

Review of deep learning: concepts, CNN architectures ...

by L Alzubaidi · 2021 · Cited by 3435 — In this paper, an overview of DL is presented that adopts various perspectives such as the main concepts, architectures, challenges, ...

Papers With Code

https://paperswithcode.com

Papers With Code: The latest in Machine Learning

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DeepLearning.AI

https://community.deeplearning.ai/research-papers-for...

Research Papers for Beginners

Nov 12, 2023 — Technique-oriented and DLS-covered papers include Adam, BatchNorm, Dropout, Resnet, and so on. They are well cited, covered by DLS lectures, and popular.

People also ask

What is deep learning in research paper?

How do I find AI research papers?

What is the most cited paper in machine learning?

What are the advanced topics in deep learning?

research papers for deep learning

Sources

Deep Learning: A Comprehensive Overview on Techniques ...

link.springer · 1

Review of deep learning: concepts, CNN architectures, challenge...

journalofbigdata... · 2

terryum/awesome-deep-learning-papers: The most cited ... - Github

github · 3

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Based on the search results and your request for foundational deep learning papers suitable for beginners, here is a curated list of 10 recommended papers:

- "Deep Learning: A Comprehensive Overview on Techniques, Taxonomy, Applications and Research Directions" (2021) - Provides a broad overview of deep learning concepts and techniques .
- "Attention is All You Need" (2017) - Introduced the transformer architecture, which revolutionized natural language processing .
- "Deep Residual Learning for Image Recognition" (2016) - Presented the ResNet architecture, a major breakthrough in very deep neural networks .
- "Dropout: A Simple Way to Prevent Neural Networks from Overfitting" (2014) - Introduced the dropout technique for regularization .
- "Adam: A Method for Stochastic Optimization" (2014) - Proposed the Adam optimizer, widely used in training deep learning models .
- "Batch Normalization: Accelerating Deep Network Training by Reducing Internal Covariate Shift" (2015) - Introduced batch normalization, a technique to stabilize training .
- "Generative Adversarial Nets" (2014) - Presented the concept of generative adversarial networks (GANs) .
- "ImageNet Classification with Deep Convolutional Neural Networks" (2012) - Introduced AlexNet, which sparked the deep learning revolution in computer vision .
- "Very Deep Convolutional Networks for Large-Scale Image Recognition" (2014) - Presented the VGG architecture, influential in CNN design .
- "Sequence to Sequence Learning with Neural Networks" (2014) - Introduced the sequence-to-sequence model for machine translation and other sequence tasks .

These papers cover fundamental concepts, architectures, and techniques in deep learning. They are widely cited, well-established in the field, and provide a strong foundation for understanding modern deep learning approaches.

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Related

What are the latest advancements in deep learning techniques

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How do convolutional neural networks (CNNs) differ from other deep learning networks

+

What are the main challenges faced in deep learning research

+

How can deep learning be applied in healthcare

+

What are the future research directions in 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.