ARTIFICIAL INTELLIGENCE (AI) TOOLS USED IN LIBRARIES

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ABSTRACT :

The present study aim is to aware the concept of Artificial Intelligence (AI) tools and use of AI tools in the libraries. The researcher has covered the various AI tools like Research Rabbit, Perplexity, Scite, ChatGPT, Consensus, EndNote, Semantic Scholar, Elicit, QuillBot, etc. in this paper. Application of AI in libraries with features of AI tools is also explained in this paper. This paper is useful to researchers, LIS students, and LIS professionals, etc.

Keyword: Artificial Intelligence, AI Tools, Libraries, Research Rabbit, ChatGPT

INTRODUCTION :

Artificial intelligence (AI) is a term used to describe a group of technologies that enable computers to do a variety of complex activities, including speech and text comprehension, data analysis, recommendation making, and vision. The term artificial intelligence (AI) refers to a group of technologies that provide computers the ability to do a variety of complex activities, including speech and text comprehension, data analysis, recommendation making, and vision. Through the facilitation of its description, picture recognition enabled by artificial intelligence (AI) increases the accessibility of visual content for individuals with vision impairments. Analytical Data for the Development of Collections AI-driven data analytics help libraries build their collections by revealing how different resources are used. Libraries are vital in today's ever-changing digital world because they offer access to knowledge and information. With AI, libraries can take their services to new heights, offering innovative solutions that meet the needs of their communities more effectively than ever fore(Galibtech, 2024).

LITERATURE REVIEW :

(Poluru, 2024) found that widespread application within libraries with examples including expert systems for reference assistant, robots designed to assist with tasks like book sorting, and the integration of virtual reality for immersive learning experiences/ **(Chandrashekara & Mulimani, 2024)** examined that the main advancements, advantages, difficulties, and prospective effects of AI on LIS services, emphasizing how it might be used to improve information access and library operations for a range of user groups. **(Mali, 2023)** emphasized that the value of openness and responsibility in the use of Chat GPT and the necessity of continual assessment and development. **(Oseji & etal., 2021)** outlined the applications of AI, including subject indexing, collection development, technical services, reference services, and descriptive cataloging. **(Ajakaye, 2021)** discussed about some of the elements of artificial intelligence (AI), the services that libraries can use it for, the advantages of using it, and the difficulties libraries have when implementing AI in their operations. **(Barki, 2022)** discussed the issues of implementing artificial intelligence (AI) in libraries, as well as robots, digital reality, and AI in libraries. **(Omame & Alex-Nmecha, 2020)** included virtual reality for immersive learning, robots that read books and shelves, and expert systems for reference, among other things. **(Vijaykumar & Sheshadri, 2019)** discussed include speech recognition, image processing, natural language processing, robotics, expert systems, artificial neural networks, fuzzy logic, and others.

OBJECTIVES

- To know the concept of Artificial Intelligence (AI)
- To aware of AI tools used in libraries
- Using AI tools in research.
- To identity features and use of AI tools.

WHAT IS ARTIFICIAL INTELLIGENCE?

A subfield of computer science called artificial intelligence is focused on building devices and software that can mimic human thought processes. Some AI systems are capable of learning from their errors by examining large amounts of data, and they can enhance their functionality without the assistance of humans to fine-tune their code.

According to John McCarthy "Artificial Intelligence is making a machine behave in ways that would be called intelligent if a human were so behaving."

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Artificial intelligence (AI) is the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns. (Coursera, 2024).

APPLICATIONS OF AI IN LIBRARIES [5], [11]

5.1 Information retrieval:

AI-powered search engines can increase the discoverability of library resources by understanding user queries, analyzing content, and providing relevant recommendations.

5.2 Digital Archives and Preservation:

Artificial intelligence algorithms can help with the digitization and preservation of these fragile objects, ensuring that rare manuscripts and historical records are available to future generations.

5.3 Virtual assistants:

AI chatbots can provide users with immediate assistance by answering their questions, pointing them in the direction of the appropriate library books, and offering customized recommendations.

5.4 Collection Development:

Artificial intelligence (AI) algorithms can analyze user preferences and usage patterns to offer insightful information for collection development decisions. This aids libraries in acquiring the most pertinent and sought-after materials.

5.5 Data analytics:

Artificial intelligence (AI) powered analytics tools can help libraries make data-driven decisions and optimize their use of resources by giving them insights into user behavior, usage patterns, and resource allocation.

5.6 Accessibility:

Artificial intelligence (AI) technology can improve accessibility for users with disabilities by providing text-to-speech, image recognition, and other assistive capabilities.

5.7 Content Curation:

AI algorithms are able to highlight popular topics, recommend articles that are relevant, and provide customized reading lists based on the interests and preferences of the user.

6. AI TOOLS USED IN LIBRARIES

1. Research Rabbit
2. Perplexity
3. Scite
4. ChatGPT
5. Consensus
6. EndNote
7. Semantic scholar
8. Elicit
9. QuillBot

Research Rabbit

In 2021, a three-person Seattle team came up with it. To help users identify publications related to one or more seed papers, this tool includes lists of prior, subsequent, and comparable articles as well as visualization maps. A state-of-the-art "citation-based literature mapping tool" is an internet application named Research Rabbit. By assisting you in finding references, this type of tool aims to maximize your time when you start organizing your essay, little project, or literature review.

Features [16]:

- *Citation-Based Literature Mapping Tool*
- Increasing the speed and effectiveness of the research process
- It is dedicated to providing researchers with free access for all time.
- Ongoing technological advancement.
- Locate pertinent information on the website with ease of navigation.
- Researchers have free access without any further fees.
- Because it is copyrighted, intellectual property is protected.

Use: Librarians can locate the newest and most creative ideas that can significantly enhance our libraries with the help of Research Rabbit! Maintain your leadership in library science advancements so that we can provide our clients with the greatest tools and support possible.

Perplexity

Engineers having experience in back-end systems, artificial intelligence, and machine learning, Andy Konwinski, Johnny Ho, Denis Yarats, and Aravind Srinivas created Perplexity in 2022. Like ChatGPT, Perplexity is a search engine that leverages LLMs to provide AI-generated results, including citations that are linked above the summary.

Features [14]:

- Perplexity Copilot provides an interactive search interface..
- Real-time online search for on-demand information retrieval.
- Transparent citation of the source.
- Information is gathered by integrating several sources.

Use: AI can assist libraries in keeping up with new developments in research. This ensures that library materials contain current knowledge and information to meet the ever-changing needs of users.

Scite

Scite.ai is a qualitative citation analysis tool of the future. Scite is an artificial intelligence tool that was introduced in 2018 and finds out if academic articles mention, agree with, or disagree with the assertions of each cited article.

Features [18]:

- Clever Citations
- Research Assisted by AI
- Clearance of References
- Reasonably priced Subscription Plans

Use: Facts are friends to librarians! Scite ensures that all of the information we provide is consistently backed up by trustworthy citations. This allows us to provide users with accurate, consistent responses.

ChatGPT

OpenAI, a San Francisco-based company that produced the first GPT series of big language models, introduced ChatGPT on November 30, 2022. Advanced language models and natural language processing capability ChatGPT, a state-of-the-art conversational artificial intelligence assistant. It stands out from competitors with its ability to understand and communicate in natural language with human-like fluency, engaging in contextual dialogue on virtually any topic (Rawat, 2024).

Features [17]:

- Understanding language
- *Extensive instruction*
- Creation of text that resembles that of a person
- *Flexibility*
- Voice Reaction Functionality

Use: Chat GPT can be used to automate certain tasks, such as answering reference questions, providing recommendations for books or articles, and assisting with information retrieval. This can potentially free up library staff to focus on more complex and personalized patron interactions, while also providing faster and more efficient service to patrons (Mali, 2023).

Consensus

Consensus was founded by Eric Olson and Christian Salem. The goal of Consensus is to provide everyone with access to the greatest knowledge available worldwide. Use consensus to find the finest science more quickly.

Features [13]:

- Consensus Meter is a novel instrument that measures agreement and disagreement among members of a group.
- The Quick Analysis tool is revolutionary for users who want to study a large number of research papers quickly.
- It is dedicated to giving its readers results that have been independently confirmed by science.
- To improve user experience, it has added state-of-the-art ChatGPT 4 technology to its platform.

Use: Librarians can provide information to clients backed by independent, peer-reviewed studies when there is consensus. By doing this, the public's trust in the library as a trustworthy source is increased because the correctness and dependability of the knowledge shared are ensured.

6.6 EndNote

Clarivate created EndNote 21.2 (MacOS & Windows), which was released on October 17, 2023. It's a reference manager that helps you organize citations quickly so you can concentrate on your study.

Features:
- Sort your articles into distinct groups either manually or automatically/
- Citations can be added quickly while writing.
- Create bibliographies using more than 7000 different referencing styles.
- Provide collaborators access to your reference collections.

Use: EndNote automates citation management, saving librarians time and effort when researching grants, programs, and other tasks. Accurate citations ensure that shared knowledge is properly attributed.

Semantic Scholar

The non-profit Allen Institute for AI was founded in 2014 with the intention of carrying out significant AI engineering and research for the good of society. Semantic Scholar was unveiled as the institute's groundbreaking project in 2015.

Features [12]:
- Users of the search feature can do sophisticated searches over a large corpus of more than 175 million papers.
- It offers succinct summaries of citations, important figures, and abstracts of papers.
- Finding papers that are closely related to any given paper is what it is.
- It gives consumers useful details about metrics, co-authors, associated institutions, and the publication history of an author.
- Users can annotate documents and save them to a personal library.
- In addition to author-level data like the h-index, it offers analytics at the publication level like citations and influential scores.
- It provides academic graphing, search, and other APIs that are helpful for creating research apps.
- Semantic Reader is an enhanced PDF reader with useful features like citations and definitions that improves accessibility to documents.

Use: Semantic Scholar provides researchers worldwide with free AI-powered search and discovery tools as well as open resources.

Elicit

Stuhlmüller, a former researcher at Stanford's Computation and Cognition Lab, and Ought, a nonprofit research group founded in 2017, developed a for-profit startup named Elicit. 2019 saw the addition of Jungwon Byun, the other co-founder of Elicit, who had led growth at online lender Upstart.

Features:
- Find papers on a research topic quickly.
- Examine and arrange several documents.
- Provide an overview of the supporting data from the most frequently cited studies on a particular research subject.
- Examine and come up with research questions.
- Determine the search terms.
- Explain terminology
- Narrow or change the course of your study.

Use: Elicit is a machine learning tool that helps you find papers, recognize key claims, compress, come up with ideas, and more. Elicit might be useful when looking for cited papers using questions typed into the search window. It can also be used to create a list of concepts based on a search.

QuillBot

QuillBot was founded with the intention of simplifying writing. It was founded in 2017 by David Silin, Rohan Gupta, and Anil Jason while they were students at the University of Illinois. The application was first created to assist with word rewording through paraphrase, but it has since evolved into a flexible writing tool.

Features:
- Paraphrasing tool
- Grammar checker
- Plagiarism detector
- Citation creator

Use: QuillBot makes sure that all of our written content, including grant proposals, articles in publications, and signage, is precise and easy to understand. Well-written message can help us inform and engage our customers in an efficient manner.

7. CONCLUSION

Artificial intelligence is considered important in the field of education in today's era. Artificial intelligence is used in libraries through various tools. This paper discussed the features and usages of various tools. All tools are used by librarians to help their readers with research. This paper also found features of AI tools like tool for citation-based mapping, free access papers, transparency reference checks, create bibliographies, quick-locate papers, search and determine terms, grammar checks, plagiarism detectors, etc.

REFERENCES :

1. Ajakaye, J. E. (2021). Applications of Artificial Intellence (AI) in Libraries. IGI Global.

2. Barki, M. S. (2022). Artificial Intelligence Applicationa and Impact on Library Management Sysytem. *International Research Journal of Engineering and Technology (IRJET)*, 905-912.

3. Chandrashekara, G., & Mulimani, M. N. (2024). The Impact of Artificiaal Intelligence on Library and Information Science (LIS) Services. *SSRN Electronic Journal*, 1-12.

4. Coursera. (2024, April 4). *What Is Artificial Intelligence? Definition, Uses, and Types.* Retrieved June 10, 2024, from oursera.org: https://www.coursera.org/articles/what-is-artificial-intelligence

5. Galibtech. (2024). *AI in Libraries.* Retrieved June 13, 2024, from galibtech.georgialibraries: https://galibtech.georgialibraries.org/emerging/ai-in-libraries

6. Hamid, F. (2024, February 28). *QuillBot AI Review: Everything You Need to Know (2024).* Retrieved June 16, 2024, from elegantthemes.com: https://www.elegantthemes.com/blog/business/quillbot-ai-review

7. Isiaka, A. O. (2023). Application and Use of of Artificial Intelligence (AI) for LibraryServices Delivery in Academic Libraries in Kwara State, Naigeria. *Library Philosophy and Practice (e-journal)*, 1-12.

8. Lee, S. (2023, June 23). *Top 30 Groundbreaking AI Tools for Librarians that Will Change Libraries Forever.* Retrieved June 13, 2024, from Grtech: https://www.grtech.com/blog/top-ai-tools-for-librarians

9. Mali, T. S. (2023). Use of Chat GPT in Library Services. *International Journal of Creative Research Thoughts (IJCRT)*, f264-f266.

10. Omame, I. M., & Alex-Nmecha, J. C. (2020). Artificial Intellegence in Libraries. IGI Global.

11. Oseji, N. A., & etal. (2021). Integratiom of Artificial Intellence in to Library and Information Workflow for Enhaced Services in Developing Economics. *AHMADU Bello University Library Complex International Conference*, (pp. 663-674). Zaria.

12. Otio. (2024, April 15). *Semantic Scholar Review: Features, Benefits & Uses Cases (2024).* Retrieved June 13, 2024, from Otio ai: https://otio.ai/blog/semantic-scholar

13. Otio. (2024, April 10). *What Is Consensus AI? Features, Benefits, Use Cases & 7 Best Alternatives.* Retrieved June 16, 2024, from Otio.ai: https://otio.ai/blog/consensus-ai

14. Pavitra, M. (2024, May 24). *Perplexity AI Review: Features, Benefits, and Alternatives.* Retrieved June 14, 2024, from Clickup: https://clickup.com/blog/perplexity-ai-review/

15. Poluru, L. (2024). Anticipating AI Impact on Library Services: Future Opportunities and Evolutionary Prospects. IGI Global.

16. Rabbit, R. (2024, June 10). *Research Rabbit- Features, Pricing & Use Cases.* Retrieved June 16, 2024, from Toolsforhumans: https://www.toolsforhumans.ai/ai-tools/research-rabbit

17. Rawat, A. (2024, April 8). *What is ChatGPT? Everything You Must Know.* Retrieved June 13, 2024, from analyticsvidhya: https://www.analyticsvidhya.com/blog/2023/03/everything-you-need-to-know-about-chatgpt/

18. Scite. (2024, June 10). *Scite- Features, Pricing & Use Cases.* Retrieved June 16, 2024, from toolsforhumans: https://www.toolsforhumans.ai/ai-tools/scite

19. Vijaykumar, S., & Sheshadri, K. N. (2019). Application of Artificial Intellence in Academic Libraries. *International Journal of Computer Science and Engineering*, 136-140.