



EMERGING INNOVATIVE ROLE PLAY OF LIBRARIES IN AI DRIVEN ERA

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Abstract:

The applications of artificial intelligence in libraries may be seen as a move away from librarians by patrons, it will likely enable libraries to do more rather than replace their role. It will improve the way they provide services. Artificial intelligence will have a significant positive impact on library operations and services. It will also enhance and increase the importance of libraries in a rapidly evolving digital society. This paper aims to clarify its significance in light of the shift from hyper digitalization to paperback normalcy.

Key words: Artificial Intelligence, hyper digitalization, human android, digital humanity

Introduction :

One among the newest computer trends and uses in libraries is artificial intelligence. It entails teaching computers to perform tasks that would be considered intelligent if performed by humans. The ultimate goal of artificial intelligence in libraries is to create machines or computer systems that can think, act, and even surpass human intelligence; this will undoubtedly have a significant impact on librarianship. Artificial intelligence is being used in libraries more and more. Among these are virtual reality for immersive learning, book reading and shelf reading robots, and expert systems for reference services. Artificial intelligence will likely help libraries accomplish more rather than replacing librarians, despite the perception that doing so will alienate librarians from their patrons. It will improve the way they provide services. Artificial intelligence will have a significant positive impact on library operations and services. It will also enhance and increase the importance of libraries in a rapidly evolving digital society. In that intelligence is determined by the standard that an activity would seem intelligent if performed by a person, machine intelligence is an anthropomorphism (McGraw-Hill Encyclopedia of Science and Technology, 2007).

Machine intelligence is not limited to just the capacity for learning; because machines are designed to detect and internalize patterns more effectively than humans, they may also be trained to get smarter over time and perform tasks more effectively without the need for explicit programming. Many of our routine computer tasks are already impacted by artificial intelligence.

The majority of modern computers and smartphones are equipped with artificial intelligence capabilities, and we have undoubtedly used them without realizing that they are sophisticated devices. Speech recognition, natural language processing, self-driving or autonomous cars, machine learning, deep learning, and robotics are a few examples of artificial intelligence in computers. In contrast to humans, who function through deep intellect, artificial intelligence relies on perceptual recognition. Artificial intelligence is based on computers' ability to recognize patterns quickly and efficiently at a scale that is not possible for humans.



The increasing need for information access has aided in the growth of societies in recent times, and libraries are the main resource for this access. Libraries today require an equal supply of the same technologies due to the paradigm shift in the format and dynamics of information and knowledge brought about by the quick development of computer technology and software applications, particularly artificial intelligence. Libraries may become obsolete in this day and age if they do not start to take use of the new technologies and innovate in the way they provide information and services.

Application AI in Libraries:

To address the information demands of its user groups, libraries have accumulated and maintained a variety of information resources over the years. In a similar vein, a library was officially described as a feature of the actual structure that housed books for reading and other uses. However, as virtual libraries have no physical boundaries and may provide services to users from a distance, the concept of a library today has evolved beyond the actual facility and now focuses on the collections and services provided. Because of this, libraries have investigated, incorporated, and transformed through various technological revolutions of clay tablets, stones, papyrus, parchments, paper, microforms, computers, Internet, virtual libraries, library 3.0, cloud computing, etc. in an attempt to meet the dynamic information needs of its clientele at the same time maintain its relevance in this ever-changing technological society.

It's interesting to note that one emerging technology that has a lot of potential and prospective uses in libraries is artificial intelligence. The old, middle ages, and contemporary times. Information was transmitted using stone tablets and clay tablets in antiquity, papyrus and parchments in the Middle Ages, paper, microform, and digital or electronic media today (Gustavsson & Hedlund, 2011).

In short, the main reason artificial intelligence systems are being used in libraries is that, in contrast to humans, they are less likely to make mistakes and can operate continuously for 24 hours a day, seven days a week, freeing up librarians to perform other tasks. In the end, computers will maximize speed, efficiency, and effectiveness in processing library materials and improve the delivery of library services at all levels since they can function efficiently at a scale and speed beyond human skills.

It's interesting to note that one emerging technology that has a lot of potential and prospective uses in libraries is artificial intelligence. Since Corke (2013) stated that artificial intelligence systems, or robots, will be an essential technology in this century, it is necessary to investigate this technology as well as its advantages and disadvantages in order to fully leverage its rich benefits for creative and effective service delivery in libraries. In summary, the main reason artificial intelligence systems are being used in libraries is that, in contrast to humans, they are less likely to make mistakes and can operate continuously for 24 hours a day, seven days a week, freeing up librarians to perform other tasks. In the end, computers will handle library materials more quickly, effectively, and efficiently than people could ever hope to, and they will improve the delivery of library services at all levels thanks to their capacity to work at a scale and speed that surpasses human capabilities.

The development of computer systems or machines that can think, act, and even surpass human intellect is the ultimate goal of artificial intelligence, and this has obvious implications for librarianship. Artificial intelligence is a biologically driven technology that mimics human perception and information processing, not merely an intelligent system or software program



(Sridevi & Shanmugam, 2017). Artificial intelligence technologies are utilized by intelligent library automation systems to offer knowledge-based services to both library staff and patrons.

It is important to distinguish artificial intelligence in libraries from library automation. The former goes beyond just automating library tasks and creates intelligent, rational systems that behave and act like librarians and require little to no human intervention, whilst the latter suggests the level of mechanization to ordinary library operations. Although Li, Huang, Kurniawan, and Ho (2015) felt that this invention will never replace librarians, it will focus on tedious and time-consuming library tasks like shelf reading and leave the librarians to interact with the public. Artificial intelligent systems have the ability to replicate human intelligence, and therefore replace a human being in a library.

Subject indexing is another useful way that artificial intelligence is being used in libraries. In order to complete this duty, the librarian or indexer must possess both technical skill and the intellectual discernment to examine, evaluate, and recommend the best terms to use as keywords or index terms for a particular text. Any machine or computer system that is capable of doing this is considered intelligent. It is possible to create an expert system to manage reference services or subject indexing. Additionally, expert systems are computer programs designed to mimic human judgment. They combine strategies and tactics with specific knowledge on how to solve problems.

Knowledge about a certain topic or domain, a broad grasp of the issues within the area, and strategies for resolving some of these issues are the components of expertise. When creating an intelligent system for subject indexing or reference services, pertinent knowledge from an expert or subject indexer is first extracted and fed into the system. From there, the system will use machine learning to learn from the knowledge base and experience in order to index documents or, depending on the situation, respond to user reference queries.

Expert systems are said to have been utilized to solve issues in a variety of fields, including engineering, computer science, and medicine. Another ideal environment for applying expert and intelligent systems is the library. Expert systems can also help with reference work, decision-making on management policies, applying cataloging standards, assigning vendors for the purchase of library goods, etc. Expert Systems use a "knowledge base"—a collection of guidelines drawn from a variety of human experts to mimic human thought and reasoning in order to do these sophisticated tasks. The interface engine and the knowledge base are the two elements that make up an expert system.

Similarly, the scholars like Sridevi and Shanmugam (2017) have reported that an expert system's knowledge base contains complex structured and unstructured information, and that the new information is iteratively deciphered by applying logical rules over the knowledge base via the interface engine subsystem. Expert systems can be built to work in the library's reference section. Since the Expert System's knowledge base is built and updated by a team of the most knowledgeable and experienced experts in the subject, it may actually provide users with better answers than a single librarian. As they say, "two heads are better than one." The keywords or phrases in the user's question will determine how the Expert System responds to the query. When a user enters specific keywords or phrases in their query, the system will intelligently answer to them. AI has an impact on the following library services:

1. Optical character recognition-based automatic cataloging and classification
3. Natural language processing is used to translate content into other languages automatically.

4. Expert system indexing that is automatic
5. Audiovisual material retrieval using speech recognition and optical character recognition.
6. The library's collections of images and music can be retrieved similarly to printed records.
7. Using a variety of media, interactive bibliographic instruction
8. Document Delivery Services (DDS) that are to become more Intelligent

It should be mentioned that artificial intelligence systems might potentially be created to manage the library's resource or collection development. that collection development is the process of satisfying the information needs of library users in a timely and cost-effective manner, primarily through acquisitions (purchases), gifts from sister organizations, and various other bodies. It also deals with resource selection, acquisition, and development in the library (Udensi & Akor, 2016). Following the selection of books that a library would like to buy, a list is typically submitted to vendors and book dealers asking them to submit rates based on the format (electronic or print, paper or hardcover), quality, and binding type.

Conclusion :

It cannot be doubted, the development of artificial intelligence systems for technical services, resource management, circulation, reference, and information retrieval/dissemination will be extremely beneficial to libraries. Artificial intelligence will significantly improve library operations and service delivery, upholding the relevance of libraries in a constantly evolving digital society despite rumors to the contrary.

Furthermore, as artificial intelligence is seen as a link between librarians and the human element in libraries, its eventual acceptance and integration into library services would undoubtedly highlight the great potential benefits it holds for the field of librarianship. Artificial intelligence won't lessen the human element in libraries or weaken the institution's ties to its stakeholders.

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