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ROLE OF LIBRARIANS IN THE ARTIFICIAL INTELLIGENCE (AI) ERA- A BRIEF STUDY

Raghavendra A.M

Librarian

PLN, First Grade College Poorigali, Malavalli

ABSTRACT

Artificial intelligence (AI) refers to the ability of machines and computer system to perform tasks that normally require human intelligence, such as learning, reasoning, decision- making and problem solving. In the modern digital era, libraries are no longer limited to storing and lending books. They have evolved into knowledge centers that manage vast amount of digital and print information. AI plays a significant role in transforming traditional library services into smart, efficient and user-friendly system

Keywords: Artificial intelligence (AI), library management, information technology, library & information science, transforming libraries.

INTRODUCTION

Artificial intelligence (AI) is one of the emerging trends and applications of computing in libraries. It involves programming computers to do things, which if done by humans, would be said to require intelligence. The ultimate promise of artificial intelligence in libraries is to develop computer systems or machines that think, behave, and in fact rival human intelligence, and this clearly has major implications on librarianship. The application of artificial intelligence in the library has become pervasive. They include expert systems for reference services, book reading and shelf-reading robots, virtual reality for immersive learning among others.

Although the incorporation of artificial intelligence in libraries can be perceived to alienate librarians from their users, it will probably help libraries do more rather than taking over the jobs of librarians. It will enhance their services delivery. Artificial intelligence will greatly improve library operations and services and will upgrade and heighten the relevance of libraries in an ever-changing digital society. Artificial intelligence (AI) is a technology that uses algorithms to analyse data and perform tasks that would otherwise require human intelligence. In libraries, AI can help with tasks like cataloguing, organizing, and providing personalized recommendations.

Artificial intelligence (AI) is a set of technologies that allow computers to perform tasks that typically require human intelligence. AI systems can learn, reason, and solve problems.

How does AI work?

- AI systems receive data, process it, and respond.
- AI systems use logic and decision trees to learn and reason.
- AI systems can work with structured, semi structured, and unstructured data.
- AI systems can use sensors like cameras to gather data.

What AI can do in libraries?

- **Personalization:** AI can analyse user behaviour and preferences to suggest books, resources, and services.
- **Automation:** AI can automate routine tasks like cataloguing, shelf management, and checkout.
- **Improve search:** AI can analyse large amounts of data to improve search functionality and information retrieval.
- **Accessibility:** AI can help ensure equitable access to resources and services.
- **Collection development:** AI can help librarians make more informed decisions about which materials to include in the library.

The rapid development of technologies has influenced different fields; the management of libraries is no exception. The concept of libraries has moved from simple warehouses of books to dynamic centers making use of advanced technologies, standing amidst digitization of information and growing user expectations. Of various technologies, AI will obviously serve as a game-changing tool that will improve operation efficiency, improve user experiences, and develop personalized interaction with patrons.

The role and application of AI in the library are an important understanding for both the librarian and the user in this new landscape ushered in by technology. Integration discussions around AI within the management of libraries show many facets of its benefits in enhancing resource discovery through personal recommendations, improving capability for data-driven decision making, and smoothing cataloging processes. At the same time, it is going to reach out toward very probable challenges with regard to data privacy concerns and algorithmic biases, so characteristic in AI technologies. In essence, this talk endeavors to show how good implementation practices effectively place libraries at the heart of facilitating learning and community engagement in an increasingly digital world.

Major applications of AI in libraries

Major applications of Artificial Intelligence (AI) in libraries as of 2024–2025 focus on enhancing user experience, automating routine operations, and improving resource discovery. These applications are typically categorized into **Technical Services** and **User Services**.

1. User Services & Reference

AI technologies are increasingly used to provide round-the-clock support and personalized experiences for patrons.

- **Virtual Reference Assistants & Chatbots:** AI-powered chatbots (e.g., OCLC's Question Point) provide 24/7 assistance by answering routine inquiries and guiding users through library resources.
- **Personalized Recommendations:** Systems analyze user borrowing history and preferences to suggest tailored resources, similar to commercial platforms like Amazon.
- **Enhanced Information Retrieval:** Natural Language Processing (NLP) allows users to perform semantic searches using conversational language instead of rigid keywords, significantly improving the relevance of search results.

- **Accessibility Services:** AI tools like text-to-speech, speech-to-text, and real-time translation help libraries support users with disabilities or diverse language backgrounds.

2. Technical Services & Operations

Automation of backend tasks allows library staff to focus on high-impact community engagement.

- **Automated Cataloguing & Metadata:** Generative AI assists in creating descriptive summaries, assigning keywords, and suggesting subject headings for vast digital collections.
- **Robotics & Inventory Management:** Robots like AuRoSS (Autonomous Robotic Shelf Scanning) are used for automated shelf organization, inventory tracking, and finding misplaced books.
- **Predictive Analytics:** Libraries use AI to forecast demand for specific materials, optimizing collection development and resource allocation.
- **Digitization & Preservation:** AI-powered Optical Character Recognition (OCR) and image enhancement tools facilitate the preservation and digitization of fragile or rare historical documents.

3. Emerging & Strategic Applications

- **Smart Library Environments:** Integration with IoT and AI to manage facility operations like lighting, seat reservations, and security through facial recognition or RFID.
- **AI Literacy Programs:** Libraries are becoming centers for teaching communities how to use AI tools ethically and effectively.

The Utilization of Artificial Intelligence (AI) Across Various Domains within the Library

(i). Enhancing Resource Discovery and Accessibility: AI-driven search engines possess the capability to comprehend intricate queries, resulting in more pertinent and customized outcomes. This advancement will alleviate user frustration and facilitate a smooth navigation experience through the extensive library collection.

(ii). Customized suggestions: By analyzing user behaviors, AI algorithms can generate suggestions that are specifically customized to the user, exposing them to relevant and new resources. Their intellectual horizons will be expanded by this strategy, which will also promote more in-depth library use.

(iii). Workflow optimization and task automation: AI can take care of repetitive tasks, allowing library employees to concentrate on more important projects. This modification enables librarians to apply their expertise to enhance the overall library experience.

(iv). Chat bots and Virtual Assistants: AI-driven chatbots can provide users with immediate assistance by providing virtual reference services around-the-clock. This ensures that clients can receive support at any time and from any location.

(v). Preservation and Archiving: Artificial intelligence (AI) may identify deterioration in library materials' photos, enabling early restorations and preventative measures. This

feature will help protect the valuable library collection. AI might be used, for example, to monitor the temperature, humidity, and light levels of rare books and manuscripts.

(vi). Promoting Equitable Access and Ethical Considerations:

A detailed examination of ethical concerns, such as algorithm bias, data privacy, and equitable access, must go hand in hand with the use of AI. Libraries must make sure AI tools are used ethically, avoiding bias or discrimination in service delivery and resource suggestions.

Role of librarians in the AI era

In the era of artificial intelligence (AI), the role of librarians is shifting from being gatekeepers of physical collections to serving as **AI literacy educators**, **ethical stewards**, and **collaborative research partners**. While AI automates routine tasks like cataloguing and data retrieval, librarians provide the essential "human touch" required for context, empathy, and critical evaluation of information.

Core Evolving Roles

a) **AI Literacy Educators:** Librarians now lead workshops and training to help users understand, prompt, and critically evaluate AI outputs. This includes teaching "algorithmic literacy"—the ability to recognize how search results are prioritized and why chatbots might hallucinate.

b) **Ethical Stewards & Policy Advocates:** They lead the charge in identifying algorithmic bias, protecting user privacy, and ensuring data security. Librarians advocate for transparent "human-in-the-loop" systems to prevent AI from inadvertently censoring information or reinforcing social disparities.

c) **Collaborative Research Partners:** In academic settings, librarians assist researchers in managing massive datasets, verifying AI-generated citations, and integrating AI into research workflows while maintaining scholarly integrity.

d) **Digital Curators & AI Tool Evaluators:** They curate specialized databases and evaluate which AI tools are trustworthy and pedagogically sound for their communities.

The "AI Librarian" Specialization

A new niche role—the AI Librarian—is emerging, specifically focused on maintaining the integrity and discoverability of data within organizations. These professionals act as data custodians to ensure that AI systems are powered by accurate, high-quality internal information rather than just broad web sources.

Impact on Traditional Functions

Traditional Function	**AI Transformation**	**Librarian's New Role**
Cataloguing	Automated metadata generation	Quality control and complex metadata management
Reference	AI chatbots provide 24/7 basic support	Handling complex, nuanced, or emotional queries

Collections	Predictive analytics for demand	Strategic resource allocation and ethical procurement

Challenges and Limitations

The future of AI in libraries faces a multifaceted landscape of challenges, ranging from severe financial and infrastructure gaps to deep-seated ethical dilemmas. Implementation remains highly expensive, with costs for licensing, specialized hardware, and continuous maintenance often exceeding the budgets of smaller or rural institutions. Technically, libraries must navigate the persistent issue of AI hallucinations, where systems confidently generate fabricated citations or misleading facts, potentially undermining the library's role as a trusted source of truth.

Data privacy and security represent a critical concern as AI systems require large amounts of patron data—such as search history and reading preferences—raising risks of unauthorized surveillance, data breaches, and non-compliance with evolving regulations like the GDPR. Ethically, librarians must address algorithmic bias, where training data may mirror historical prejudices that skew search results or marginalize diverse voices. Furthermore, a significant skills gap exists, as many current professionals lack the technical training required for prompt engineering or tool governance, leading to professional anxiety and fears of job displacement.

FUTURE DIRECTIONS OF AI IN LIBRARIES

Future directions for AI in libraries (2025–2030) focus on moving beyond basic automation to creating **proactive, immersive, and ethically governed** knowledge hubs. Libraries are shifting from "Information as a Service" to **"Insight as a Service" (IAAS)**, leveraging AI to provide deep intelligence rather than just access to documents.

- **Knowledge Networks**: Instead of traditional search, libraries will use AI to link authors, subjects, and citation pathways into thematic clusters for deeper discovery.
- **Predictive Operations**: Beyond recommending books, AI will forecast emerging research trends, anticipate which services need expansion, and optimize space usage through heat maps and occupancy sensors.
- **Conversational Interfaces**: Transitioning to "Conversational Libraries" where users interact with multilingual, voice-based AI helpers for complex inquiries.
- **Virtual Time Travel**: Using VR/AR and holographic technology to recreate historical events, allowing patrons to witness or participate in history as if they were present.
- **Quantum Libraries**: Hypothetical "Quantum Libraries" could store the entirety of human knowledge with near-instantaneous searching via quantum algorithms.
- **Bio-Interactive Spaces**: Smart buildings utilizing IoT and AI to manage bioluminescent environments, solar-harvesting windows, and sensors that respond to a patron's physiological state.
- **AI-Integrated Knowledge Hubs**: Libraries will evolve into centers for **Big Data research**, providing tools that automate literature reviews, citation analysis, and data mining at a massive scale.

- **Precision Preservation**: AI will move into **conservation labs**, using predictive algorithms to identify early signs of deterioration in fragile manuscripts and assisting in digital restoration.
- **AI Policy Writing**: 2026 is projected as a critical year for establishing library-specific guardrails regarding AI-generated content in collections and staff use of AI.
- **Upskilling Focus**: Priorities include training staff in **prompt engineering**, data literacy, and evaluating AI for hallucinations or bias.
- **Blockchain Integration**: Growing use of blockchain for secure digital rights management and decentralized library services to ensure data privacy and transaction transparency.

CONCLUSION

AI enhances efficiency, accuracy and user satisfaction while helping libraries adapt to the digital environment. The future of librarianship will depend on their ability to embrace these innovations, while maintaining their core mission of supporting lifelong learning and equitable access to information. AI has revolutionized librarianship, yet it is the same information managed. Reference, cataloging, and management now target digital resources. It shall be ethical to make use of AI in facilitating the use of library information. The facility enhances reference services by applying natural language processing, machine learning, and virtual assistants. This will help the librarians interpret the AI output and effectively conduct an information search that satisfies patrons' requests.

AI Tagging clearly raised the quality of the metadata as it automatically organized the content. With the AI-related tasks of Information Verification and Classification, the records librarian was thrown into a sea of changing virtual realities. Artificial Intelligence also brings updates in the training of new technologies for librarians, ensuring data safety in order to bridge the digital gap. Ethics would try to bring a balance to the librarian in deciding upon AI and its use, with problems it's capable of bringing forth, algorithmic bias included, and how it will touch traditional services.

REFERENCES

1. Rasheed Ahmed (2024): The role of librarians in the artificial intelligence (AI) revolution is undergoing significant transformation, vol.no 9, issue 6.
2. Dr. Dhananjay Shivaji Trimukhe: Reconceptualising the Librarian's Role in the Age of Generative AI and ChatGPT
3. Mr. Shilvant Ramesh Gopnarayan Dr.Madhukar D.Garad (2025): Libraries In Ai Era: Applications And Perspectives.
4. Vijayakumar Y. Jalagar; Prakash M. Rathod; Dr. Shreekant G. Karkun : Artificial Intelligence's (AI) Impact on Libraries: A New Era