Empowering Librarians through AI: Training and Professional Development Perspectives

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Background

Librarians play a crucial role in disseminating knowledge and information, and the integration of AI can potentially empower them even further. This paper explores the perspectives of training and professional development for librarians in the context of AI integration. It delves into the roles of AI in reshaping the future of library professional development, enabling them to better serve their communities and effectively navigate the evolving information landscape, as well as harnessing the tools and resources for librarian training and skill enhancement. By examining the implications of AI on librarianship, this paper also shed light on the challenges and considerations associated with empowering librarians through AI, ultimately contributing to the advancement of library services and the broader accessibility of knowledge.

The integration of artificial intelligence (AI) in the field of librarianship has sparked significant interest in exploring the potential impact of AI on training and professional development for librarians. As custodians of knowledge and information, librarians play a vital role in facilitating access to resources, providing research assistance, and curating collections tailored to the needs of their communities. With the rapid advancements in AI technology, there is a growing recognition of the transformative role that AI can play in enhancing the skill set and professional competencies of librarians.

Artificial intelligence (AI) is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy, (OECD 2020: Cox and Mazumdar, 2022). AI is a computer-controlled robot that thinks intelligently like human beings. These robots are controlled electronically with the aid of the computer by mimicking the competencies of the human mind (Nwakunor, 2021). Thus, AI can significantly assist librarians with tasks within the library setting.

Traditionally, library professionals have relied on manual processes for tasks such as cataloging, metadata management, documentation, and information retrieval. However, the incorporation of AI into library routines present opportunities for librarians, enabling them to devote more time and resources to engage higher professional activities (Huang, Cox and Cox,

2021: Moustafa and Yusuf, 2023). Therefore, AI has the potential to impact the profession of librarianship as well as revolutionize professional development initiatives for librarians, as noted by Wood and Evans (2018), that the time has come for our professional organizations to develop special interest groups, workshops, and professional development opportunities to explore the implications of this rapidly evolving technology.

The role of AI in shaping the future of library professional development

Artificial intelligence (AI) is increasingly essential in empowering librarians to manage and provide access to vast information. By harnessing AI technologies, librarians can streamline processes, enhance information retrieval, and provide more personalized services to patrons. (Wood and Evans, 2018: Bairagi and Lihitkar 2024). According to Sangapur and Kumbar (2021), AI is similar to having a super-smart librarian who organizes books, anticipates readers' reading preferences, and recommends the perfect titles for them. Similarly, Suryawanshi (2024) averred that AI integration in libraries involves a range of functions, such as cataloging, information retrieval, and user engagement. Also, AI utilizes modern technologies like natural language processing and machine learning algorithms to automate the indexing and precise classification of library items. (Ridley and Pawlick-Potts, 2022: Bairagi and Lihitkar, 2024).

The role of AI in library operations cannot be overemphasized, although others may see it as a threat to librarians as posited by Lee (2023), that while some may view AI as a threat to librarians' jobs, it can be seen as an opportunity to elevate their roles. AI can also handle routine tasks, freeing librarians to focus on more important duties such as teaching critical thinking, curating collections, and helping patrons navigate an increasingly complex information landscape. Similarly, Massis (2018) affirmed that while AI may be seen as a threat to traditional institutions like libraries, it also has the potential to enhance library services greatly. Ultimately, AI serves as a powerful tool for librarians, enabling them to adapt to the evolving information landscape and better serve their communities.

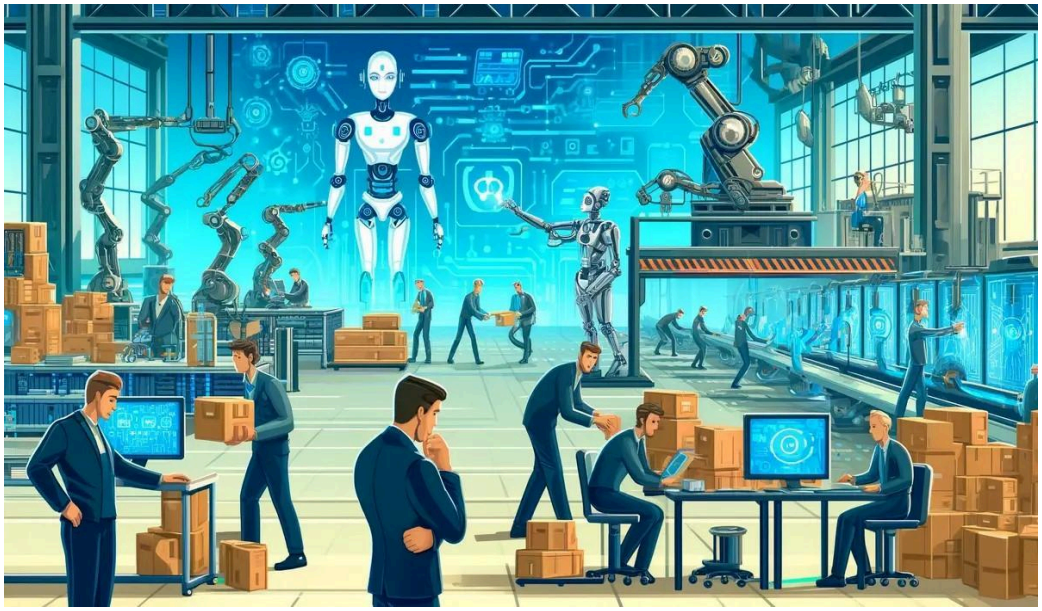

Figure 1. Empowering librarians using generative AI for professional development
Image: Sean Mitchell, 2023

Embracing artificial intelligence (AI) can greatly contribute to the professional development of librarians. By incorporating AI into their skill set, librarians can effectively navigate and utilize advanced technologies to enhance information management, automate repetitive tasks, and improve user experiences (Cox, 2022). Professional development initiatives can focus on providing librarians with training in AI tools and techniques, as well as fostering an understanding of AI's potential impact on library services and information access. This can empower librarians to adapt to the changing technological landscape and better meet the evolving needs of library patrons.

AI tools and resources for librarian training and skill enhancement

When it comes to training librarians in artificial intelligence (AI), it is important to focus on both the technical and practical aspects. Librarians can benefit from learning about the applications of AI in organizing and retrieving information, as well as gaining proficiency in using AI-powered tools and systems.

According to Lee (2023), there are so many AI tools for training librarians to help them develop the skills and knowledge needed to effectively leverage AI in their roles. However, only few of such AI tools will be considered in this study:

Research Rabbit

Research Rabbit can be a valuable tool in training librarians due to its ability to streamline research processes and provide access to a wide range of funding opportunities, grants, and scholarships Librarians can use Research Rabbit to uncover the latest and greatest ideas that will truly transform libraries (Lee, 2023, Ali, Naeem and Bhatti, 2020). Additionally, Research Rabbit can assist librarians with references which can further maximize their time when organizing essays, projects etc. (Tandel. 2024). It can also aid librarians in staying current with the evolving information landscape, enabling them to provide enhanced research support and guidance to library users. This can help provide accurate, credible answers that patrons can depend on.

ChatGPT

ChatGPT can help in training librarians by providing a conversational AI platform that can assist librarians in answering inquiries, providing information, and engaging with library patrons effectively. To further buttress this, Ali (2023), opined that chatgpt is helpful in a variety of library services such as providing library users with better access to information, faster information retrieval, and more efficient customer service. It can also aid in developing AI-powered chatbots for library websites to enhance user interactions and provide round-the-clock assistance (Panda and Kaur, 2023; Adebayo, 2023). Thus chatgpt can save librarians' time by responding to users' queries.

Scite

Facts are friends to librarians! Scite ensures that all of the information provided is consistently backed up by trustworthy citations (Lee 2023). This allows librarians to provide users with accurate and consistent responses. Scite can assist librarians in identifying reputable and influential scholarly articles by analyzing citation contexts, providing insights into the

reliability and credibility of research papers, and checking the quality of references cited in Wikipedia articles. (Nicholson, et al. 2020; Rosati, 2021; Scite, 2021). This can aid librarians in curating high-quality academic resources and guiding library users toward credible sources of information.

Consensus:

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. (Tandel, 2024; Bairagi and Lihitkar, 2024). Furthermore, librarians can use consensus-building techniques to make informed decisions about information management and resource allocation. By involving stakeholders in decision-making processes, librarians can ensure that their services meet the needs of their communities.

Perplexity AI

Perplexity AI provides an interactive real-time search interface for on-demand information retrieval. (Tandel, 2024). AI includes an added feature of generating a separate bibliography consisting of links to sources accessed in the authorship of its responses (Perplexity AI, 2023). In training librarians, addressing perplexity can be crucial. Librarians should be equipped to handle library users' complex and ambiguous information needs. Training programs can focus on developing critical thinking skills and methods for resolving uncertainty, allowing librarians to address perplexing information needs effectively.

Endnote

Training librarians on Endnote, a reference management software, can enhance their ability to organize and manage citations, references, and bibliographies. Incorporating Endnote training into professional development programs can improve librarians' efficiency in assisting patrons with their research and reference needs, scholarly databases, academic journals, and research repositories by providing streamlined access to relevant publications and research materials. (Moustapha and Yusuf, 2023; Bairagi and Lihitkar, 2024; Idris, et al, 2019). Endnote can assist librarians in staying updated with the latest research trends and facilitating seamless access to scholarly content for library patrons.

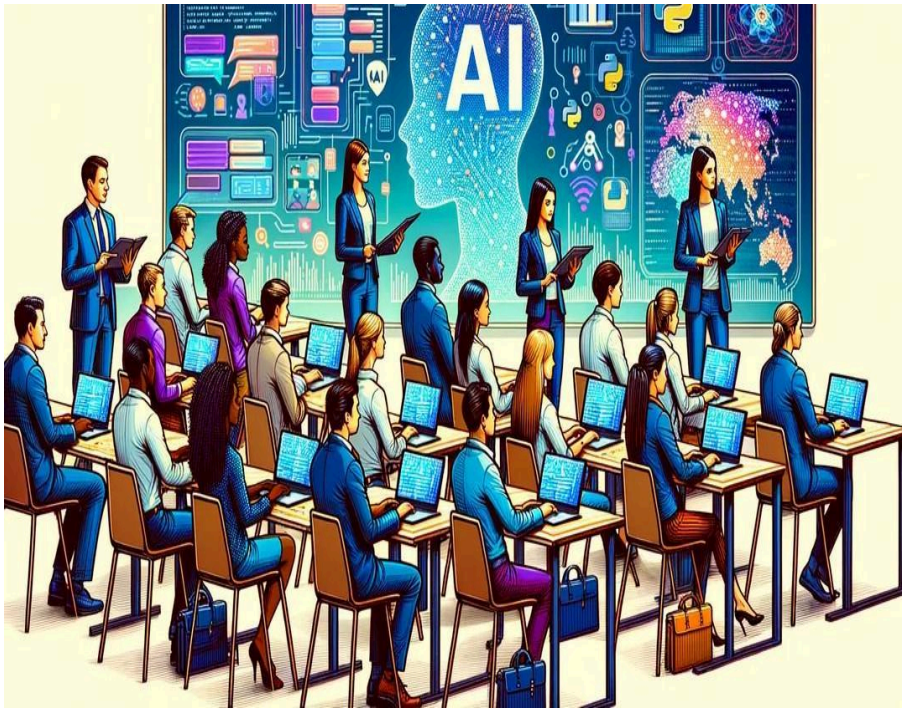

Figure 2. AI tools for training librarians

Image: Sean Mitchell, 2023

AI tools for librarians hold great promise but also pose risks if not developed ethically and inclusively. As information professionals, librarians must advocate for AI that empowers all patrons and leaves no one behind. AI has the potential to significantly enhance the training and professional development of librarians, enabling them to adapt to the evolving landscape of library services and meet the needs of their communities more effectively.

Challenges and considerations for upskilling librarians in AI competencies

Upskilling librarians in AI competencies posed several challenges and considerations which must be taken into account to ensure effective integration and utilization of AI in library services:

- ***Technological resistance***

Integrating AI into librarians' workflow may present some challenges due to concerns about job displacement as attested by Udo-Okon and Akpan, (2024), that implementing artificial intelligence system tools in libraries may present a challenge due to job displacement. As a result, some librarians may exhibit resistance to adopting AI technologies into library practice. Similarly, Chehhtri, (2023) opined that the automation of certain library tasks through AI may raise concerns about job displacement. As such, libraries need to carefully manage this transition, upskilling staff, and redefining roles to ensure that AI complements and augments human capabilities rather than replace them. Upskilling initiatives should include strategies for addressing and overcoming technological resistance.

- ***Ethical considerations and Privacy awareness***

As important as AI is in equipping librarians with skills and knowledge, it also brings some ethical implications that must be considered and addressed carefully. According to O'Neil, (2016), one of the main ethical concerns surrounding AI in library services is privacy**.** Libraries

must prioritize data collection and data security, implementing robust protocols to safeguard user privacy and prevent unauthorized access or misuse of personal data. (Cordell, 2020, Zhang, 2022). Librarians must be equipped with a thorough understanding of the ethical and privacy implications of AI technologies, especially in handling sensitive patron information. Training programs should emphasize the responsible and ethical use of AI in library services to mitigate potential privacy and ethical concerns.

- ***Resource Allocation and Infrastructure***

Allocating resources for the implementation of AI technologies and infrastructure upgrades can be challenging. Libraries must be proactive in reaching to their community of users by providing access to technology and AI-driven resources effectively (Li and Wang, 2021; Weijia, 2022). Librarians should consider the cost-effective implementation of AI strategies for leveraging existing resources.

- ***Lack of skills and training***

The lack of adequate AI skills and training presents significant challenges for librarians and library professionals. According to Tait and Pierson, (2023), 'the adoption of AI and robotics in libraries may be hindered by a lack of skills and the need for training before implementation. Similarly, Hervieux and Wheatley (2021) argued in their study that the low adoption rate of AI and bots in libraries is due to a lack of knowledge about these technologies. Thus, without comprehensive training in AI, librarians may find it difficult to implement and utilize AI tools and technologies as attested by Odigie, (2024), that challenges such as training, and infrastructure mitigated the integration of AI into library operations, restricting its effectiveness in supporting library work. Therefore, it is essential to provide comprehensive AI training programs, equitable access to AI education, upskilling opportunities and professional development resources to empower librarians to mitigate the complexities of AI integration in library services.

Conclusion.

AI will continue to augment, rather than replace librarians' job. These technologies should enhance the roles of librarians, not replace them, enabling us to better serve our communities for generations to come. As AI continues to evolve, it stands as a vital ally in shaping the future of library professional development, ensuring that librarians are equipped with the necessary skills to thrive in the dynamic information landscape.

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