New horizons of artificial intelligence in libraries

The IFLA Publications may reflect various aspects of library work and research. This volume dedicates significant effort to presenting the artificial intelligence work done by libraries and discussed during the IFLA conferences in 2022 and 2023. It is quite remarkable to observe how early and energetically libraries began exploring AI's potential for their needs, and how thoroughly librarians have addressed its main issues.

Thirty-five authors from 15 countries have presented recent studies, projects, and cases from different libraries to capture the current state of AI across library types. Nevertheless, I would suggest that the landscape they depict is already evolving and advancing, primarily along the directions outlined in this volume. Consequently, the book's timeliness and the novelty of its material will be attractive and beneficial for the entire profession and those who consistently strive to stay at its cutting edge.

The Introduction provides a comprehensive overview of the context, explaining the nature and concept of artificial intelligence, its governance issues, its relationship to libraries, and the implications for library work. The remaining 22 chapters are divided into four parts addressing different aspects of AI application in libraries:

1. The first part explains the general directions and issues related to AI and libraries.

2. The second part deals with policy issues and the primary ethical and moral aspects of AI, particularly in relation to library services and information professionals.

3. The third part presents machine learning and natural language processing projects conducted in or for libraries.

4. The fourth part explores AI usage for enhancing library services.

Each part is prefaced with its own introduction, providing more detailed insights into the specific issues presented. The first part emphasizes the challenges AI raises for librarians' competence and the principles of librarianship as a profession, highlighting the continuous technological transformations. It also addresses emerging challenges related to resources, such as expertise, funding, and competition.

The second part examines legal, policy, and strategy issues across individual, organizational, institutional, and national levels, all interconnected with security, safety, and ethical concerns. National policy and legal regulations address issues like human rights, equality, safeguarding the free flow of information, and the trustworthiness of human-centered AI. Institutional concerns are explored through a chapter on AI usage in higher education, drawing from US educational statistics to showcase AI's limitations and potential improvements. Organizational opportunities are investigated through the lens of AI's potential in digital scholarship ecosystems maintained by academic libraries and a specific project at North-West University Library. A scenario-based approach is used to illustrate ethical challenges faced by libraries and information professionals at individual and institutional levels.

The third part focuses on practical applications of machine learning and language processing technologies in libraries, including creating linked subject systems, transforming subject indexing

and cataloging practices, and conducting deep analysis of historical documents. This section will be particularly relevant for those seeking new tools to improve content accessibility.

The final part explores AI systems' implementation in library services, offering insights into their creation and usage. This includes developing chatbots and recommender systems, creating AI games to enhance digital literacy, and adding value to existing library management systems. The section is enriched with step-by-step instructions for AI service application.

A glossary and a list of resources for gaining enhanced AI knowledge complete the volume.

In my view, this volume is a valuable resource not only for practicing librarians but also for researchers and students of library and information science. It provides rich material for understanding AI in libraries and generates intriguing research ideas.

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