


Chapter 10

Future Trends and Emerging Technologies in AI and Libraries

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ABSTRACT

This abstract investigates how libraries are changing in the age of artificial intelligence (AI). It explores how new technologies are changing how libraries operate and provide services. Recommendation systems driven by artificial intelligence (AI), natural language processing (NLP) for improved user engagement, text analysis and data mining for knowledge discovery, AI-driven metadata management, and AI-driven preservation initiatives are some of the major themes in this field. Furthermore, RPA, or robotic process automation, simplifies library operations. The chapter focuses on how these technologies are transforming user experience, library administration procedures, and information access, so influencing how libraries will function in the digital era.

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INTRODUCTION

Libraries have traditionally functioned as knowledge and information archives, developing in tandem with technological breakthroughs. Libraries have long been used as information and knowledge archives, developing in tandem with technological breakthroughs. The use of Artificial Intelligence (AI) has resulted in notable changes to library services and operations in recent times. The future trends and cutting-edge technology influencing the nexus between AI and libraries are examined in this introduction.

Artificial intelligence (AI)-powered recommendation systems are becoming indispensable resources for libraries due to the growth of digital material and the increasing need for personalised experiences. By analysing user preferences and behaviour, these systems provide customised recommendations that increase user pleasure and engagement.

Moreover, Natural Language Processing (NLP) makes it possible for libraries to create intelligent interfaces that can comprehend and reply to user questions in natural language, such as chatbots and virtual assistants.

Artificial intelligence (AI)-powered text analysis and data mining technologies are essential for extracting insights and accelerating knowledge discovery as libraries continue to gather enormous volumes of digital data.

Artificial intelligence (AI) technology also supports preservation efforts, efficient operations, and information management in libraries. By automating monotonous work, robotic process automation, or RPA, frees up resources for more strategic endeavours.

Recent developments in artificial intelligence (AI) point to a dramatic change in the direction of increasingly complex and specialised uses across a range of industries. The field of natural language processing (NLP) and understanding is advancing at a rapid pace. Furthermore, AI-driven automation is becoming more and more common, especially in sectors like manufacturing, healthcare, and finance where autonomous systems and robotic process automation (RPA) are improving efficiency and streamlining operations. In order to address concerns about bias, privacy, and fairness, another developing field is responsible AI, which focuses on ethics, transparency, and responsibility in AI development and deployment.

Artificial intelligence (AI) is becoming more and more ingrained in daily life and has a significant impact on a wide range of businesses. Furthermore, the emergence of edge AI—made possible by edge computing and IoT devices—is boosting productivity and enabling real-time decision-making through local data processing. Initiatives for responsible AI research and deployment are being prompted by the growing importance of ethical AI considerations, which aim to reduce hazards like prejudice and privacy infringement. Anticipating the future, cutting-edge technologies

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