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Original Research

The 100 Most Cited Articles in Artificial Intelligence in Library and Information Science: A Bibliometric Approach

Amrollah Shamsi
MSc, Library and Information Science, Clinical Research Development Center, Bushehr University of Medical Sciences, Bushehr, Iran.
shamsi@bpums.ac.ir / shamsiamrollah@gmail.com
ORCID iD: https://orcid.org/0000-0001-6528-9341

Ting Wang
Ph. D. Instructor, Library and Information Science, School of Library and Information Management, Emporia State University, Emporia, Kansas, USA.
Corresponding Author: twang2@g.emporia.edu
ORCID iD: https://orcid.org/0000-0002-1423-4559

Brady Lund
Assistant Prof., information science, College of Information, University of North Texas, Denton, Texas, USA.
brady.lund@unt.edu
OCRID iD: https://orcid.org/0000-0002-4819-8162

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Abstract

The rapid emergence of Artificial Intelligence (AI) has significantly transformed various sectors, including Library and Information Science (LIS). This bibliometric study examines the 100 most cited articles on Artificial Intelligence in LIS, revealing the field's evolution, key themes, and emerging trends. The analysis highlights a slow progression in AI-LIS research since the 1990s, followed by a significant acceleration after 2018. The findings underscore the shift from theoretical exploration to practical applications, particularly in domains like healthcare, while emphasizing the interdisciplinary nature of AI research in LIS. The study also explores global contributions, with the United States leading the field and emerging economies like China and India playing increasingly important roles. International collaborations between developed and developing countries are critical for addressing resource disparities, fostering capacity-building, and promoting equitable knowledge exchange. This study provides valuable insights into the current state of AI in LIS.

Keywords: Artificial Intelligence, Library and Information Science, Bibliometric Analysis, Citation Analysis, Interdisciplinary Research.

Introduction

Artificial Intelligence (AI) is not an altogether new concept. Articles contemplating the incorporation of intelligent systems into various contexts date back to the early 1950s, and

mentions in Library and Information Science (LIS) literature can be found in many publications from the 1960s and 1970s. The formal birth of AI as a discipline can be traced back to the 1956 Dartmouth Conference, where pioneers such as John McCarthy. Marvin Minsky and Shannon first coined the term (Cordeschi, 2007). Since then, AI has evolved through several cycles of innovation and stagnation, culminating in the remarkable breakthrough of ChatGPT in late 2022, which brought generative AI technologies into the widespread public consciousness. However, ChatGPT and similar large language models offer benefits in information retrieval, content creation, and personalized assistance, but also present challenges related to accuracy, ethics, bias, and privacy concerns (Ray, 2023).

With the increasing role of AI in information access, libraries must adapt to these transformations. This adaptation not only improves services but can also redefine the role of libraries in the digital age (Jyoti & Kumar, 2024). Such changes underscore the need for a more comprehensive understanding of how AI technologies are influencing LIS practices and the challenges and opportunities they present for the future. The AI ecosystem now encompasses various types, including specialized AI, general AI, machine learning systems, natural language processing tools, computer vision applications, and emerging generative models capable of creating text, images, and other content (Syracuse University, 2025). Each type offers distinct possibilities for LIS applications, from enhancing discovery systems and automating routine tasks to creating new forms of digital scholarship and personalized patron experiences (Adegboye, Vaidhyam & Huang, 2024). Meanwhile, the diversity of AI technologies has led to multifaceted implementation approaches across different types of libraries and information centers, resulting in a rich but fragmented research landscape (Tang & Zhang, 2023). It is essential to understand different perspectives on the application of AI in LIS.

Bibliometric studies are essential in library and information contexts, as they provide systematic approaches to understanding the intellectual structure, evolution, and impact of AI research in these settings. According to records in the Scopus database, pre-2022, there were 1088 articles published on the topic of "AI" AND "Libraries." Between 2022 and November 2024, 2,091 articles were published on this topic. This explosion of interest in AI - particularly generative AI technologies - in libraries underscores the need to evaluate the research landscape on this important topic. This study aims to address this gap by conducting a comprehensive bibliometric analysis of the 100 most-cited articles on artificial intelligence in libraries. It identifies key research clusters, maps collaboration networks, measures research impact, highlights significant findings, and outlines emerging trends to inform future research and practice in this rapidly evolving field.

Literature Review

In many ways, the history of artificial intelligence is closely intertwined with the emergence of library and information science as a discipline. Foundational figures in the discipline - Alan Turing, Vannevar Bush, Claude Shannon - were critical to the early development of intelligent systems. A 1955 proposed computer and information science summer research project at Dartmouth College, facilitated by Shannon along with McCarthy, Minsky, Rochester and Shannon (2006) was the foundational moment where the term "artificial intelligence" was introduced, with the definition focusing on developing solutions to problems in computer-automated processes, computer language, neural networks, efficient calculations, and the capacity of computers to self-improve in their performance. In short order, the concept of

artificial intelligence entered mainstream consciousness and captured the imagination of both amateur and professional scholars, influencing prominent science fiction writers such as Arthur C. Clarke, as well as thought leaders in disciplines such as computer science and philosophy (Poole, 2012).

It was in the 1960s that the first mentions of artificial intelligence in library literature began to emerge. A seminal work on this topic is Licklider's (1965) book, *Libraries of the Future*. In this seminal work, the author explores the expanding knowledge base within libraries and how computers can serve as an important mediator between these sources and human users, thereby eliminating information overload and ensuring that users receive information relevant to their inquiries. In the years that followed, many prominent names in the history of information science - including Taylor (1968), Linda Smith (1976), and Clarke and Cronin (1983) - examined aspects of integrating artificial intelligence technologies into library work. Most of these works convey an optimistic outlook for AI, fulfilling libraries' mission and objectives by improving information access, but also express reservations about the feasibility of these technologies being adopted on a broad scale.

By the 1990s, the role of artificial intelligence in information retrieval had begun to garner considerable attention. Some authors expressed excitement about intelligent systems for supporting retrieval, while others critiqued their capacity to simplify but potentially distort context (El-Najdawi & Stylianou, 1993; Jones, 1999). As AI technologies continued to mature in the early 2000s and 2010s, the focus shifted from more theoretical discussions of integrating these technologies into practical implementations of actual AI tools, such as chatbots for supporting library reference services (Yao, Zhang & Chen, 2015). Scholars also began to take an interest in how library patrons and employees perceived the integration of these technologies into library services, noting that user perceptions and experiences are crucial to achieving actual adoption and use of these technologies (Cox, Pinfield & Rutter, 2019; Hervieux & Wheatley, 2021; Lund Omame, Tijani & Agbaji, 2020).

In late 2022, ChatGPT was released to the public. This revolutionary tool made the power of generative artificial intelligence accessible to a broad audience, and its impact in supporting the information-seeking needs of diverse populations was undeniable. Early explorations of ChatGPT's implications, such as Lund and Wang's (2023) paper on the potential of this technology, examined its impact on libraries, academia, and student support, predicting trends that have since materialized, including AI-driven assignment completion and the integration of AI in libraries. Libraries, such as Zayed University, have pioneered integrating ChatGPT into reference services, achieving moderate success (Lappalainen & Narayanan, 2023). In contrast, other studies have highlighted its mixed performance and the need for human oversight (Lee, 2024). As AI reshapes library roles, it emphasizes evolving competencies rather than job replacement, with emerging fields like prompt engineering-illustrated by Lund's (2023) discussion on AI literacy and Lo's (2023) CLEAR framework-positioning librarians to navigate and lead in this new technological landscape.

While there have been some recent publications exploring the emergence of artificial intelligence within library and information science literature (Borgohain, Bhardwaj & Verma, 2024; Vasishta, Dhingra & Vasishta, 2025), there has yet to be a study that explores the most highly cited papers in this area in order to glean new insights about the nature of this research. Given the rapid growth of this research area, there is likely to be a glut of low-quality, low-impact publications on the topic, which could skew analyses of important themes and trends in

prominent papers (Akça & Akbulut, 2021). By focusing on the most-cited papers in a research area - an approach used in many recent bibliometric studies (Mattos, Perazzo, Vargas-Ferreira, Martins-Júnior & Paiva, 2021; Xiong, Liu & Wang, 2021) - it is possible to glean insights only from those publications that have had the most significant impact on the research area and thus identify what themes and trends are highly valued in this area.

Materials and Methods

Data source and search strategy

This retrospective bibliometric study, aimed at identifying studies related to artificial intelligence in library and information sciences, was conducted on August 27, 2024. Web of Science database (Indexes: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI) was used without any restrictions. The search strategy was used in the sub-strategy.

TS= ("artificial intelligence" OR "machine learning" OR "natural language processing" OR "deep learning" OR "neural network") AND WC=(Information Science & Library Science)*

Then, the retrieved studies were sorted by the most-cited rate. The 150 most-cited documents were extracted as a complete record in Excel format to serve as the next article, in case some are removed during the screening stage. We included only articles and review articles. This study was exempt from ethics committee oversight as it did not involve patient examinations or record reviews.

Screening stage

To ensure the relevance of artificial intelligence studies in the field, two researchers (TW, AS) independently screened titles and abstracts. In the event of disagreement, a third referee was involved to resolve it (BL).

Bibliometric parameters

In the present study, bibliometric indicators were investigated and analyzed at two author levels (number of authors, team size, top authors, and authors' countries) and at the document level (publication trends, document types, citations, average citations per article, journals, and most-cited papers). Also, the knowledge structure of this set was analyzed at the level of social structure (co-international cooperation network) and at the level of conceptual structure (co-occurrence network for keywords), and the resulting networks were visualized.

Analysis tools

Microsoft Office Excel 2019 was used to create descriptive reports, including publication trends, author counts, document types, and other relevant details. Additionally, the online literature metrology analysis platform (https://bibliometric.com) was utilized to map the cooperation network among countries. VOSviewer v1.6.15 was utilized to visualize the keyword co-occurrence network (Van Eck & Waltman, 201).

Results

Main information

A Web of Science search revealed that the 100 most-cited articles on AI in library and information science were published in 1993, and this trend has been slow. However, in 2018, there was a significant increase in the number of articles. These 100 most cited articles were written by 551 authors (5.51 authors per article). More information is provided in Table 1.

Table 1
Characteristics of the 100 most cited lis articles related to AI

Description	Findings
Timespan	1993-2023
Document type	
Article	85
Review	15
Authors	
Total Authors	551
Avg. Authors per Document	5.51
Team size	
1	8
2	17
3	18
4	23
5	10
6	6
7	5
8	2
9	3
≥10	8
Citations	
Total Citations	31468
Avg. Citations per Documents	31.47

Trends and subjects

Figure 1 illustrates the progression of AI research in LIS over time, both in terms of publications and topic trends. Panel A indicates an overall increase in the number of publications from 1993 to 2023, with an apparent uptick beginning in 2018 and peaking in 2020 (16 articles). The decrease in publications in 2021 may be related to methodological or retrieval concerns, but it supports a general thesis of increased researcher interest in scholarly publications on AI in LIS. Panel B illustrates AI-related research topics over the years, showing a shift from foundational AI techniques in artificial intelligence and machine learning to applied areas such as natural language processing.

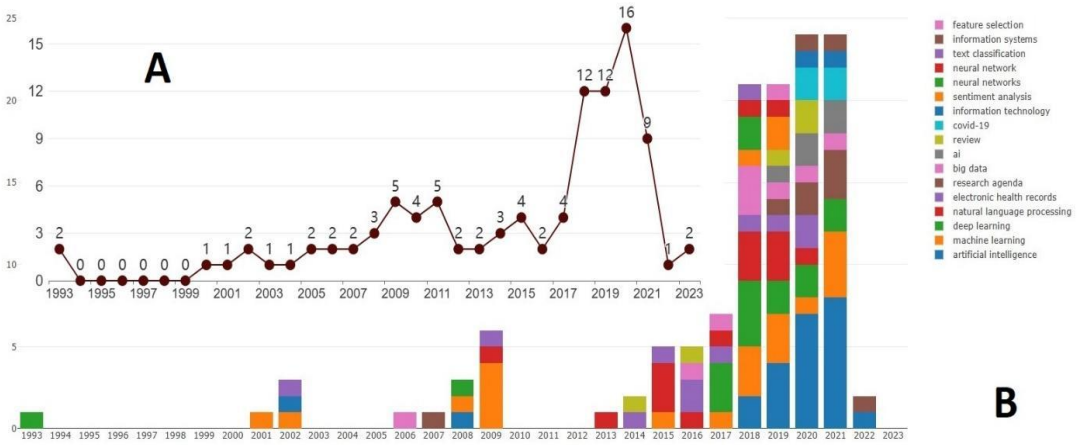


Figure 1. Trends of publications (A) and topics (B) of the 100 most cited lis articles in AI

Authors

Table 2 presents the most prolific authors in the 100 most cited AI-related LIS articles. Xu H is the leading author with six publications, followed by Denny JC, Dwivedi YK, Ooi KB, and Uzuner Ö (4 articles each). The majority of authors appeared in only one article, reflecting broad but fragmented engagement in this field.

Table 2
Top authors of the 100 most cited LIS articles related to AI

Authors	Number of publications
Xu H	6
Denny JC	4
Dwivedi YK	4
Ooi KB	4
Uzuner Ö	4
Duan YQ	3
Hew TS	3
Hripcsak G	3
Janssen M	3
Leong LY	3
Raman R	3
Sun JM	3

Journals

As shown in Table 3, the publication landscape is dominated by a few key journals. *Journal of the American Medical Informatics Association* leads in both number of publications (28) and total citations (8,357), highlighting its central role in medical informatics in shaping AI-related discussions within LIS. *Journal of the American Society for Information Science and Technology* has the highest average number of citations per article (530.8), indicating a high impact per publication. Journals like *International Journal of Information Management* (IF = 20.1) combine high impact factors with strong citation performance. In contrast, others, such as Scientometrics and Annual Review of Information Science and Technology, show significant influence despite lower or no impact factors. The prominence of interdisciplinary

journals underscores the cross-domain nature of AI in LIS. The long tail of journals includes those with only one highly cited article, such as Ethics and Information Technology, Journal of Knowledge Management, Journal of Computer-Mediated Communication, and the Annual Review of Information Science and Technology (ARIST). Notably, ARIST's single paper has accumulated 460 citations, demonstrating that even individual contributions in specific venues can have a strong influence.

Table 3
Journals of the 100 most cited LIS articles related to AI

Sources	NP*	IF (2023)	T. Citation	Avg. CPP**
Journal of the American Medical Informatics Association	28	4.7	8357	298.46
International Journal of Information Management	19	20.1	6654	350.21
Information Processing & Management	10	7.4	4829	482.90
Government Information Quarterly	6	7.8	1166	194.33
International Journal of Geographical Information Systems	5	4.3	1528	305.60
Journal of the American Society for Information Science and Technology	5	-	2654	530.80
Information & Management	4	8.2	995	248.75
Scientometrics	5	3.5	1368	273.60
Telematics And Informatics	3	7.6	536	178.67
Journal of the Association for Information Science and Technology	2	2.8	321	160.50
Journal of Information Science	2	1.8	517	258.50
Telecommunications Policy	1	5.9	146	146
Social Science Computer Review	1	3	149	149
Quantitative Science Studies	1	4.1	212	212
Journal of Knowledge Management	1	6.6	162	162
Journal of Informatics	1	3.4	378	378
Journal of Computer-Mediated Communication	1	5.4	211	211
International Journal of Computer-Supported Collaborative Learning	1	4.2	168	168
Information Technology & People	1	4.9	338	338
European Journal of Information Systems	1	7.3	156	156
Ethics and Information Technology	1	3.4	163	163
Annual Review of Information Science and Technology	1	-	460	460

**NP: Number of publications. **Avg.CPP: Average Citations per Publication*

Most-cited articles

The top-cited articles (Table 4) reflect foundational and applied advancements in AI within LIS. The most-cited paper by Sokolova et al. (2009) focuses on performance metrics in classification tasks and serves as a methodological reference across disciplines. A strong presence of health informatics is evident, with several highly cited works-such as Savova et al. (2010), Nadkarni et al. (2011), and Uzuner et al. (2011)-centered on clinical text analysis and

NLP in medical contexts. Additionally, recent high-impact articles by Dwivedi et al. (2021, 2023) highlight growing scholarly interest in AI ethics, policy, and generative AI (e.g., ChatGPT). The inclusion of both foundational reviews and timely, agenda-setting papers underscores the evolving nature of AI research in LIS, shifting from technical methods to broader societal and practical implications.

Table 4
Top ten most-cited articles of the 100 most-cited LIS articles related to AI

Authors/year	Titles	Sources	Doc. Type	Citation
Sokolova et al., 2009	A systematic analysis of performance measures for classification tasks	Inf. Process. Manage.	Article	3435
Savova, et al, 2010	Mayo Clinical Text Analysis and Knowledge Extraction System (cTAKES): architecture, component evaluation and applications	J. Am. Med. Inf. Assoc.	Article	1254
Thelwall, et all, 2010	Sentiment in Short Strength Detection Informal Text	J. Am. Soc. Inf. Sci. Technol.	Article	1172
Dwivedi, et al, 2021	Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy	Int. J. Inf. Manage.	Article	970
Duan et al., 2019	Artificial intelligence for decision making in the era of Big Data - evolution, challenges, and research agenda	Int. J. Inf. Manage.	Article	892
Stamatatos, 2009	A Survey of Modern Authorship Attribution Methods	J. Am. Soc. Inf. Sci. Technol.	Review	842
Dwivedi et all, 2023	So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges, and implications of generative conversational AI for research, practice, and policy	Int. J. Inf. Manage.	Article	713
Nadkarni et al., 2011	Natural language processing: an introduction	J. Am. Med. Inf. Assoc.	Review	766
Uzuner, et all, 2011	2010 i2b2/VA challenge on concepts, assertions, and relations in clinical text	J. Am. Med. Inf. Assoc.	Article	703
Li et al., 2002	Neural-network-based cellular automata for simulating multiple land use changes using GIS	Int. J. Geogr. Inf. Sci.	Article	753

Countries and regions

Further analysis showed that 42 countries had authors in 100 articles. The United States (N=55), the United Kingdom (N=11), and China (N=9) had the most articles, respectively (Table 5). Figure 2 depicts research collaborations among countries. The segment along the circle's perimeter corresponds to a specific country, with its size reflecting the country's contribution to the total number of publications. Larger segments, such as those for the United States, the United Kingdom, China, and India, indicated significant roles in the global AI research landscape. The interconnecting chords illustrate the relationship between countries. The thickness and density of the chords reflect the strength and frequency of the collaborations among countries. The thick chords between the United States and China indicated a robust bilateral research relationship and frequent collaboration. Strong connections are also observed between India and the United States and the United States and the United Kingdom. The close collaboration between the United States and countries leading in AI research within the LIS field may underscore the field's centrality and influence in advancing research, as well as its role as a critical hub for knowledge exchange and collaborative innovation on a global scale.

Table 5

List of countries/regions of the 100 most cited LIS articles related to AI

Countries	Number of publications
United States	55
United Kingdom	11
China	9
India	8
Australia, Germany, Malaysia, Netherlands	6
Brazil, South Korea, Spain	5
Canada, Denmark, France, Norway, Scotland, Wales	4
Finland, Hong Kong, Italy, Saudi Arabia	3
Austria, Greece, Poland, South Africa, Switzerland, Turkey	2
Argentina, Bangladesh, Ireland, Israel, Liechtenstein, Mauritius, New Zealand, Oman, Portugal, Qatar, Serbia, Singapore, Sweden, Taiwan, United Arab Emirates	1

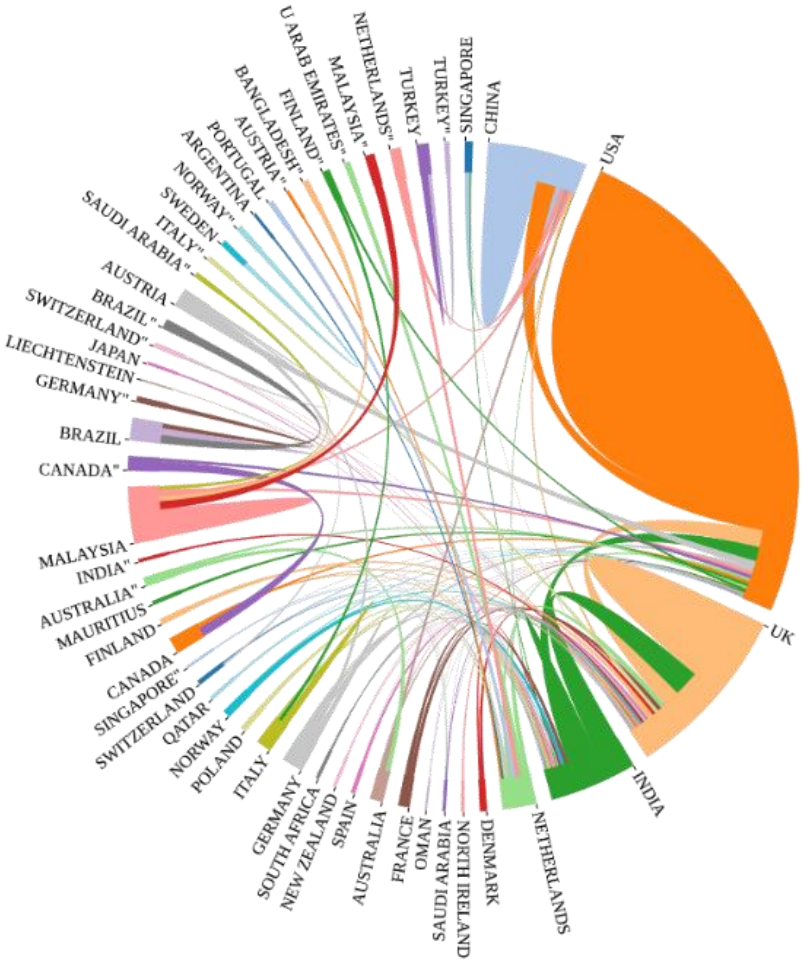


Figure 2. The collaboration network map among countries/regions (The line's thickness indicates the extent of collaboration; a thicker line signifies more robust cooperation)

Co-occurrence of keywords

The co-occurrence of the keywords network (all keywords and the minimum keywords' threshold was five), shown in Figure 3 (A), consisted of 26 items in four clusters of keywords whose topics were:

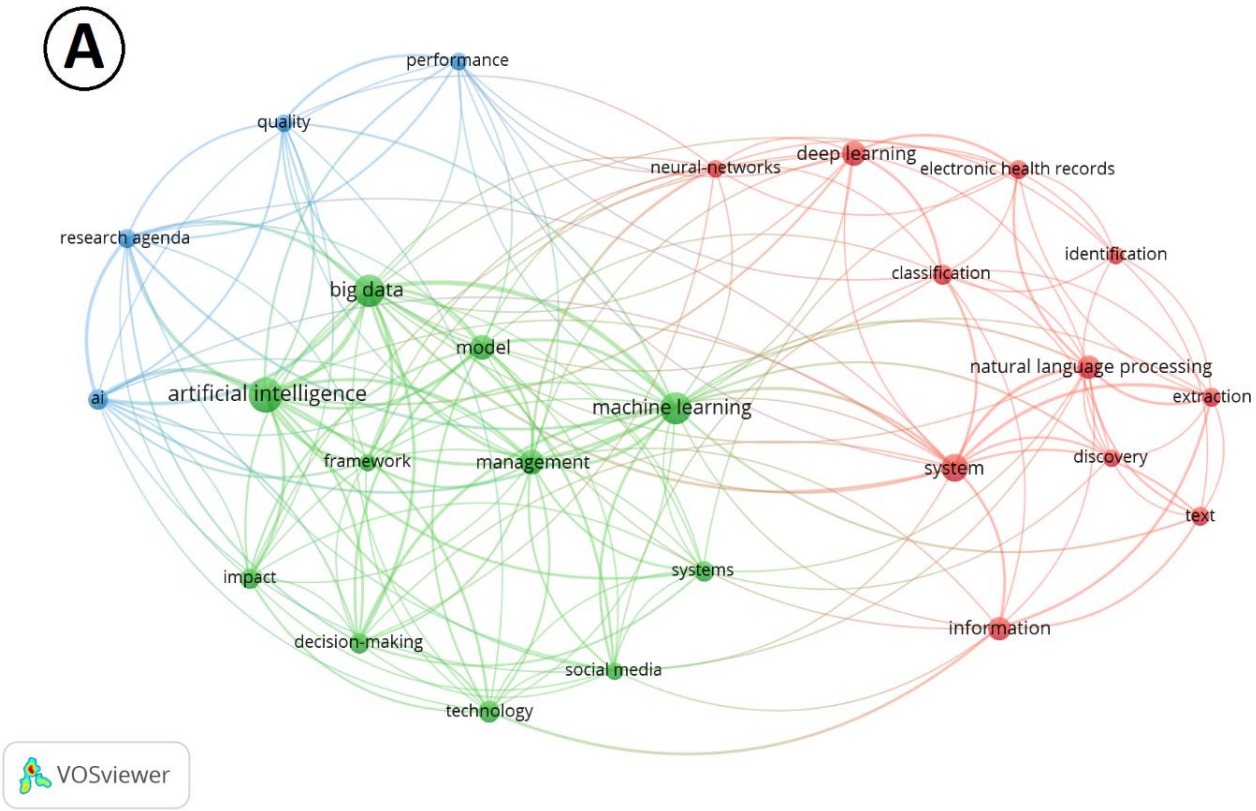
Cluster 1 (red nodes): The red cluster focused on "natural language processing" and "deep learning," closely connected to keywords such as classification, extraction, text, discovery, and electronic health records. It indicated a research focus on applying deep learning and natural language processing techniques to tasks such as information retrieval, text analysis, and healthcare applications. The term "electronic health records" emphasizes the extraction of insights from large, text-based datasets in healthcare, potentially to improve decision-making or patient care.

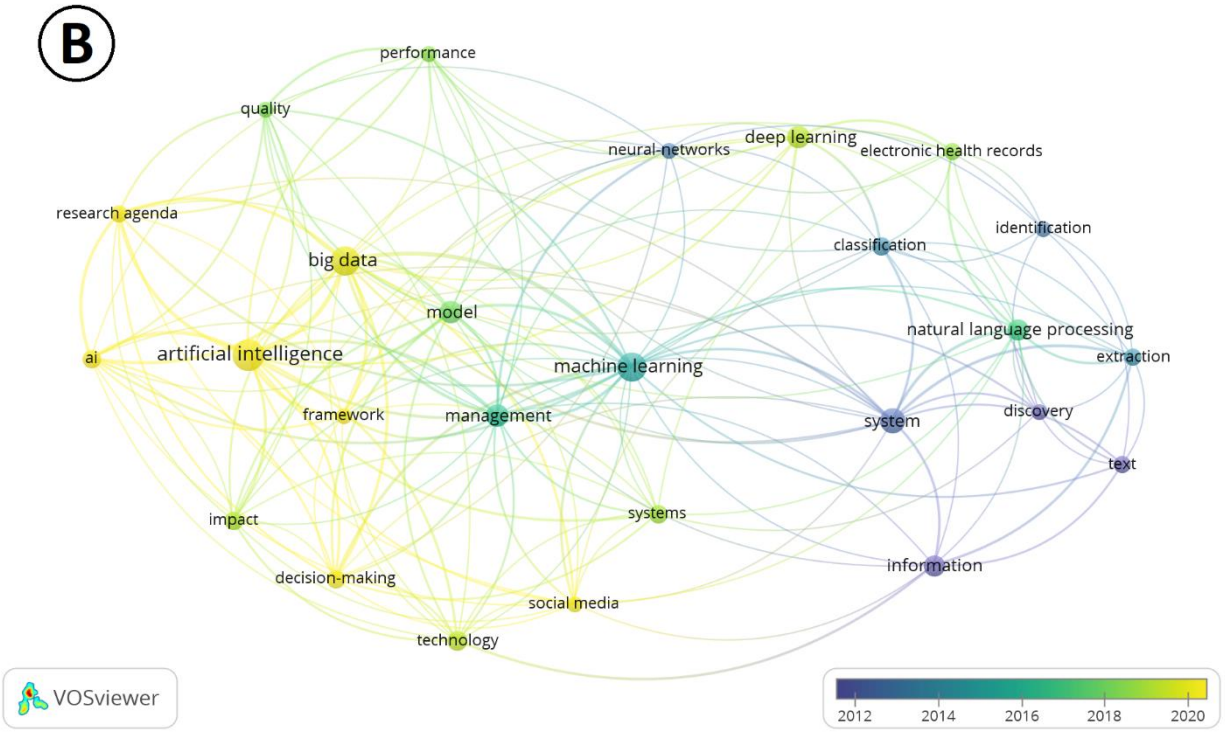
Cluster 2 (green nodes): The red cluster focused on "artificial intelligence," "machine learning," and "big data," interconnected with keywords such as model, management, decision-making, technology, and framework. It signified a focus on developing and applying machine learning models to analyze and manage large datasets. The cluster might highlight the foundational technologies driving innovation and their role in supporting decision-making processes, especially in complex systems and technology-driven environments, including

"social media" as a keyword, which might suggest exploring AI and machine learning in analyzing user behavior or trends within social platforms.

Cluster 3 (blue nodes): Keywords like "research agenda," "performance," and "quality" were prominent, which could reflect a meta-level discussion on the direction of research efforts, the effectiveness of methodologies, and the quality of outputs.

The connections between the clusters reveal overlapping research themes, such as "systems" and "information," which served as bridges between the green and red clusters, indicating the integration of machine learning and natural language processing within information systems. Similarly, the link between "big data" in the green cluster and "performance" in the blue cluster suggested a focus on assessing the efficiency and effectiveness of the data-driven approach.





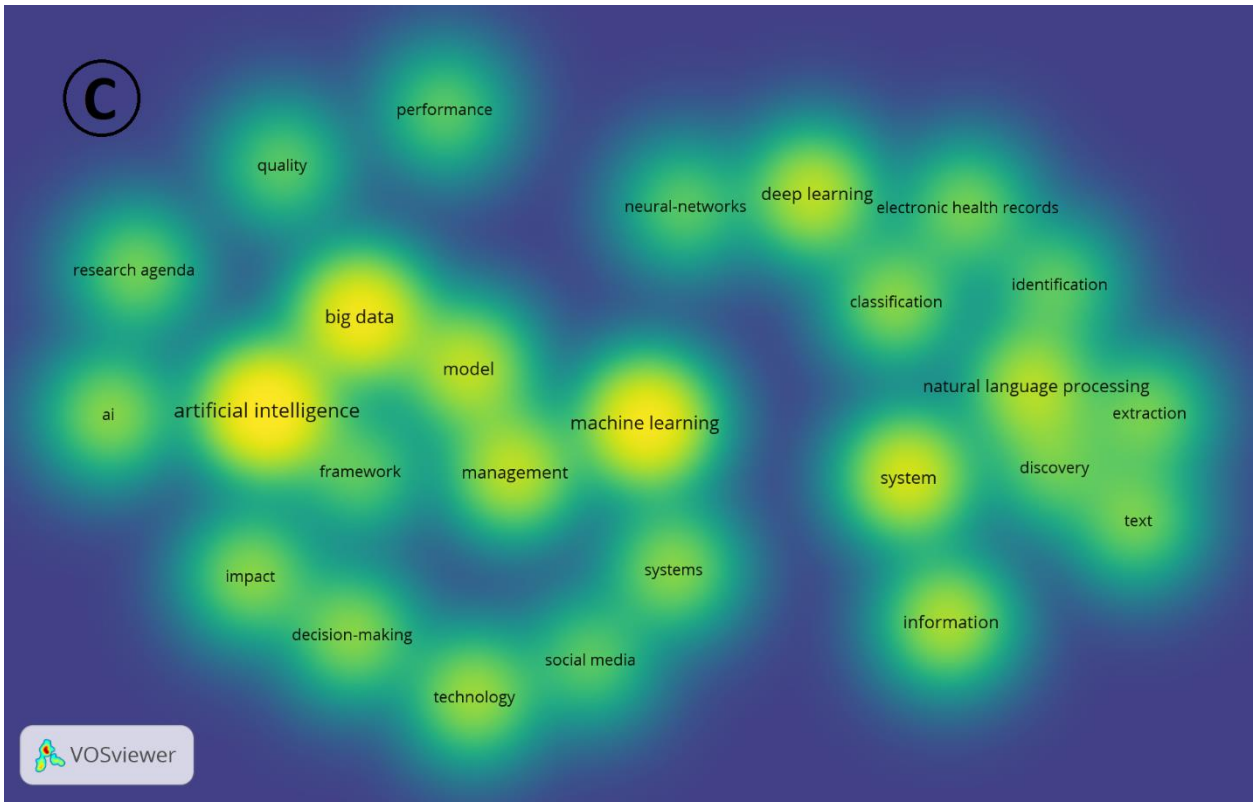


Figure 3. (A) VOSviewer-based network visualization groups closely related keywords into clusters, each marked with identical colors. (B) VOSviewer-based overlay visualization of keywords, where nodes in purple or blue indicate earlier keywords, and those in yellow highlight current research focuses. (C) Keyword density visualization.

Figure 3(B) presents an overlay of keyword co-occurrence, where node colors reflect the timeline of prominence in the research landscape. Purple and blue nodes indicated more prevalent keywords in earlier research (around 2012-2014), while yellow nodes represented emerging focus areas in recent years (closer to 2020). In earlier years, keywords such as “text,” “discovery,” and “information” indicated that research was centered around basic methods and systems for processing and organizing data. The term “classification,” represented by a blue node, indicated the foundational work of classifying and structuring data, a key aspect of early AI and machine learning efforts.

Recent research has shifted its focus to “natural language processing,” “machine learning,” and “big data.” The keyword “electronic health record” suggests that applying natural language processing in practical fields such as healthcare is gaining increasing attention. Keywords "performance" and "quality" emphasize the importance of evaluating and improving AI and machine learning systems to ensure they perform reliably in real-world settings. Researchers have shifted from merely developing algorithms to refining their deployment and maximizing their impact. The central placement of "machine learning" and "artificial intelligence" further reveals their central role in connecting the various themes within the research landscape and in linking technological innovation with applied research areas.

Figure 3 (C) provides a heatmap visualization of keyword co-occurrence, highlighting the prominence and interconnectivity of key terms within the research landscape. As expected, “Artificial Intelligence,” “machine learning,” and “big data” are among the brightest and most central keywords. Surrounding these core terms are keywords such as model, framework, and management, which are fundamental components of AI and machine learning. The keywords underscore the significance of structured methodologies for data-driven predictions, system development and deployment, and the effective governance and operationalization of AI technologies. The bright cluster of “deep learning,” “natural language processing,” and “electronic health records” indicates a growing focus on applying advanced AI techniques in specific domains. This highlights areas where cutting-edge technologies are being deployed to address real-world challenges, such as healthcare analytics and text extraction.

Discussions

This bibliometric study examined the 100 most-cited articles on AI in LIS. The results revealed that the earliest article was published in 1993. Over the next 25 years, relatively few highly cited articles emerged, with a significant increase occurring after 2018. The limited growth during the earlier period can largely be attributed to technical limitations. In the 1990s, AI was in its early stages, characterized by underdeveloped computing power, data storage capabilities, and basic algorithms that restricted its effective application (LeCun, Bengio & Hinton, 2015; Russell & Norvig, 2003). The computing resources necessary for advanced AI research-such as machine learning models, natural language processing, and deep learning-were either inaccessible or prohibitively expensive for many researchers at the time (LeCun et al., 2015). During this period, the LIS field focused primarily on traditional manual practices, such as cataloging and information retrieval (Jayavadivel et al., 2024). Advances in computational power, databases, and algorithmic breakthroughs since the 2010s have enabled the development of AI (California Miramar University, 2025), as reflected in keyword co-occurrence analysis. The findings are consistent with those of previous bibliometric studies on AI in LIS and various other fields regarding publication trends (Borgohain et al., 2024; Prahani,

Rizki, Jatmiko, Suprapto & Tan, 2022; Slimani, Mhamdi & Jilbab, 2024; Vasishta et al., 2024).

The average number of authors in the present study is slightly higher than in similar studies in other areas of AI, such as natural disaster forecasting (Kappi & Mallikarjuna, 2024). This difference may indicate the interdisciplinary nature of LIS. However, this difference may also be due to the limited sample size of the present study, which includes only the top 100 articles. The average citations per article in this study (31.46) is close to that of similar studies in AI in the field of veterinary medicine (32) (Elasan & Yilmaz, 2025). This similarity suggests that the articles reviewed in this study meet global standards for impact. The slight difference may be due to the study's focus on a specific subfield and the sample's limitation to high-impact articles.

The prominence of "classification" during this phase underscored foundational efforts to categorize and structure data, laying the groundwork for subsequent innovations in AI, including the development of machine learning and natural language processing techniques (McRoy, 2021; Sarker, 2021). Around 2020, the research shifted toward machine learning, AI, and big data. The prominence of the keyword "electronic health record" may suggest a shift in research focus from theory to practice, particularly in healthcare, where AI techniques are used to analyze and derive insights from large-scale, text-based clinical datasets. Similarly, Borgohain et al. (2024) revealed that, in addition to covering core AI areas such as machine learning and data mining, AI research in LIS also encompasses applications in health, medicine, biological modeling, and chemical modeling.

The rapid growth of AI research in LIS, fueled by technological advances, highlights the field's interdisciplinary character, as confirmed by the journal analysis. For instance, the prominence of medical information journals, such as the Journal of the American Medical Informatics Association, underscores the intersection of AI, healthcare, and LIS, reflecting the growing application of AI in health information management. Journals such as Government Information Quarterly and Scientometrics focus on information management, policy development, and research evaluation. In combination with the research topic and classification, the application of AI in LIS is expanding beyond traditional areas to encompass broader themes, demonstrating its interdisciplinary nature. As noted by Ram (2023), the application of AI in libraries has expanded beyond traditional areas, such as cataloging and organizing, and increasingly emphasizes user-centered, practical applications, extending even to broader aspects of service design. Several studies (Chandrashekara & Mulimani, 2024; Chaudhuri & Terrones, 2024; Ogungbenro, Esse, Olowoporoku & Christopher, 2025) also reflect that the research themes have shifted from information retrieval to AI literacy and tailored services, reinforcing the interdisciplinary diversification observed in the current study.

The 100 most-cited articles were authored by 551 researchers from 42 countries, with the United States leading with 55 articles, followed by the United Kingdom with 11 and China with 9. The leading position reflected the United States' robust research infrastructure, substantial funding opportunities, and strong emphasis on interdisciplinary collaboration. A study examining the application of AI in libraries indexed in the Scopus database also revealed that the United States continues to publish the most articles, followed by India, China, and the UK (Vasishta et al., 2024). Meanwhile, the collaboration between researchers in the United States and those from other countries highlighted the long-standing academic advocacy for international partnerships. Such collaboration, especially between researchers from developed and developing countries, is instrumental in bridging disparities caused by economic, technological, and resource-related constraints and contributes to capacity-building efforts,

ensuring more inclusive and globally representative advancements in scientific research (Lund et al., 2023). The global collaboration also reflected and contributed to a more inclusive and diverse research environment.

Conclusions

This bibliometric study analyzed the 100 most-cited articles on AI in LIS and revealed the field's evolution, key themes, and emerging trends. The findings indicated a slow progression in AI-LIS research since the 1990s, attributed to technological limitations. However, significant acceleration and transition occurred from theoretical exploration to practical applications, particularly in domains such as healthcare, after 2018, driven by advancements in computational power, the availability of big data, breakthroughs in machine learning, and natural language processing techniques. Additionally, while the United States has played a central role in research in the field due to its strong research infrastructure, funding opportunities, and interdisciplinary partnerships, emerging economies such as China and India have also made significant contributions and established collaborations. The collaboration between developed and developing countries was crucial in addressing resource gaps, building capacity, and promoting equitable knowledge exchange.

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