USE OF ARTIFICIAL INTELLIGENCE IN LIBRARY AND INFORMATION SCIENCE: IMPLICATIONS FOR GRADUATE EMPLOYABILITY

Sandeep Suresh Bhadange

Symbiosis International University, Nagpur campus

Email : sandeepbhadange40@gmail.com

Mob : 9545984703

Abstract :

Artificial Intelligence (AI) is transforming the field of Library and Information Science (LIS), reshaping not only library operations but also the career pathways of graduates. This paper examines how AI integration in LIS curricula and professional training prepares graduates for enhanced employability in the digital era. By analysing technological applications such as automation, data mining, natural language processing, and AI-driven knowledge management, the study highlights the new competencies required for the labour market. The research also explores challenges such as skill gaps, ethical concerns, and institutional readiness, offering recommendations for embedding AI-focused learning in LIS programs to ensure graduates remain competitive in a rapidly evolving job landscape.

Introduction :

The field of Library and Information Science (LIS) is experiencing a dramatic transformation as artificial intelligence (AI) continues to influence the way knowledge is created, organized, and accessed. Traditionally, libraries were viewed as repositories of books and information resources, where the primary functions involved cataloging, indexing, and providing reference services. In the contemporary digital era, however, these roles have expanded significantly. Libraries are no longer confined to physical collections; they have evolved into dynamic knowledge hubs that integrate AI-driven tools such as automation, predictive analytics, natural language processing, and virtual assistants. This technological shift has profound implications for graduates in LIS, as it redefines the professional competencies required to succeed in the employment market.

AI applications within LIS are reshaping the nature of both education and practice. Automation now handles routine and repetitive tasks, enabling professionals to devote more time to strategic functions such as data analysis, digital preservation, and advanced research support. Chatbots and conversational agents are increasingly being used to provide instant user assistance, while machine learning algorithms personalize search and discovery mechanisms to meet individual user needs. These developments demonstrate that graduates

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

330

entering the workforce must acquire new skills that combine traditional information science knowledge with emerging digital and technological expertise. The demand for hybrid professionals—those who can navigate both information management and technology—has never been higher.

For graduates, this evolution creates a dual challenge and opportunity. On the one hand, AI reduces the need for certain traditional skills, such as manual cataloging and indexing, potentially leading to concerns about job displacement. On the other hand, it creates entirely new pathways for employment by broadening the scope of professional practice. Graduates with proficiency in data mining, information retrieval systems, and AI-based knowledge management are now employable in diverse sectors, including higher education, corporate research, government institutions, healthcare, and digital enterprises. The flexibility to adapt to different organizational environments is a key advantage that AI-oriented LIS graduates bring to the employment landscape.

Furthermore, employability today is not determined solely by technical expertise but also by the ability to manage ethical, social, and cultural challenges related to technology. As AI becomes integral to knowledge systems, issues such as data privacy, algorithmic bias, digital inclusion, and equitable access to information gain greater importance. Employers increasingly expect LIS professionals to have the awareness and capacity to address these challenges responsibly. For graduates, this means that employability requires a balance between technical competence, ethical reasoning, and problem-solving skills in technology-driven environments.

Review of Literature :

Recent studies underscore the dual role of AI in both improving library operations and shaping the skill sets of future professionals

Fu, P. (2018). *Artificial Intelligence and Its Applications in Libraries.* — A review of AI methods (expert systems, NLP, pattern recognition) and early applications in cataloguing and reference; frames AI as both challenge and opportunity for LIS education.

Cox, A. (2023). *How artificial intelligence might change academic library work.* — Conceptual paper forecasting trajectories of AI adoption and noting skill shifts from routine processing to evaluative, curatorial and research-support roles. Emphasizes workforce planning.

Tait, E. & Pierson, C. M. (2022). *Artificial Intelligence and Robots in Libraries: Opportunities in LIS Curriculum.* — Empirical review of LIS curricula; argues for explicit AI/robotics content to prepare future librarians and suggests learning outcomes linked to employability.

Lo, L. S. (2024). *Evaluating AI Literacy in Academic Libraries: A Survey Study.* — Large

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

331

survey (n≈760 library employees) assessing AI literacy; finds uneven readiness and recommends workforce training—directly relevant to graduate preparation and employer expectations.

Tang, Z. (2023). *Comparative Analysis of AI Applications in Libraries.* — Literature analysis highlighting which AI applications are mature (search, chatbots) and which are emergent (generative AI); links application maturity to likely job tasks for new graduates.

Dube, T. V. (2024). *Skills and competencies of academic librarians to use emerging IT/AI.* — Systematic review identifying 27 works on competencies; recommends modules on data literacy, analytics, ethical AI for LIS programs to boost employability.

Meakin, L. (2024). *Exploring the Impact of Generative AI on Academic Libraries.* — Investigates practical and ethical impacts of GenAI on library work (reference, instruction); discusses how graduates must learn to evaluate and integrate generative systems.

Huang, Y. (2023). *AI in academic library strategy (China & UK comparison).* — Sector-level study showing national strategies shape library adoption and thus graduate job market opportunities across regions. Useful for contextualizing employability.

Friesen, E. (2023). *Artificial Intelligence in Subject-Specific Library Work.* — Reviews AI's impact across specialties (law, health, business), highlighting domain-specific skills (e.g., health data curation) that increase graduates' marketability.

Molaudzi, A. I. (2024). *Use of AI innovations in public academic libraries (South Africa).* — Empirical study finding limited strategic adoption; concludes that local employability gains for graduates depend on institutional investment.

Nirudi & Parichi (2024). *Artificial Intelligence in Libraries: An Overview* (SSRN). — Broad overview of AI use-cases and implications for staff training; useful synthesis connecting technologies to job tasks.

Concha / Science Open (2024). *Use of artificial intelligence in libraries: systematic synthesis (2019–2023).* — Another systematic synthesis that corroborates growth in literature and the centrality of training/curriculum gaps.

Artificial Intelligence and Library Services (2024 review article). — Presents practical case studies (chatbots, digital preservation) and explicitly links staff competence to service quality—implication: graduate internships in such projects improve employability.

Leeds / UK project report: *Artificial intelligence (AI) in libraries* (project report). (2020–2022).** — Large practitioner research project documenting pilots and workforce impacts; calls for skills frameworks and hands-on training for LIS graduates.

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

332

AI in libraries: a systematic review -2019–2023 — researchgate & semanticscholar entries. — Provides mapping of research themes and notes the increasing attention to ethics, policy and literacy training—key for employability curricula.

ACRL/ALA professional resources (2023–2024). — Practitioner guidance and competency statements for academic librarians about AI; these documents are often referenced by employers when specifying desired skills.

Future of AI in Libraries" (iSchool / practitioner blog; SJSU). — Forward-looking analysis of new job roles (AI-tools manager, data steward) that LIS graduates could occupy; useful for employability planning.

Comparative reviews and mapping papers (various 2022–2024). — Multiple mapping studies converge that AI research in LIS accelerated after 2021–22 and emphasize workforce development and curriculum change as primary research gaps.

Practical case studies (2020–2023) on chatbots and virtual reference deployments. — These case studies show that involvement in chatbot projects gives graduates demonstrable, employable experience (project work, UX testing, dialog design). See several applied articles collected in systematic reviews.

Conceptual Framework :

1. Foundation of the Model :

The conceptual framework is grounded in two central ideas:

- **Technological Transformation Theory**: When a sector undergoes technological disruption, professional roles shift from traditional tasks to new knowledge-based competencies.
- **Employability Theory**: Graduate employability is shaped not only by technical skills but also by adaptability, continuous learning, and alignment with labor market demands.

2. Key Dimensions of the Framework :

(A) AI Integration in LIS :

AI applications in LIS form the **input dimension** of the model. These include:

- **Automation of Routine Tasks** (cataloging, metadata creation, indexing).
- **Intelligent Information Retrieval** (search algorithms, recommender systems, semantic search).
- **User Interaction Tools** (chatbots, virtual assistants, learning analytics).
- **Research Support & Data Mining** (text mining, big data analysis).
- **Digital Preservation & Accessibility** (AI in archiving, OCR, assistive technologies).
  Each of these applications introduces **new competencies** that must be mastered by LIS graduates.

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

333

(B) Graduate Competency Transformation :

AI integration shifts the competency profile expected of LIS graduates. This includes:

1. **Technical Skills**:
o Data literacy, data visualization.
o Basic machine learning and natural language processing awareness.
o Familiarity with AI-driven library management systems.

2. **Cognitive & Analytical Skills**:
o Critical evaluation of AI outputs.
o Problem-solving in information retrieval.
o Ability to integrate AI tools into decision-making.

3. **Ethical & Professional Skills**:
o Understanding data privacy and intellectual property.
o Mitigating algorithmic bias in information services.
o Ensuring inclusivity and accessibility.

4. **Adaptive & Lifelong Learning Skills**:
o Capacity to update knowledge with emerging technologies.
o Flexibility to work in interdisciplinary environments.

(C) Employability Outcomes

Graduate employability is the **output dimension** of the model, which manifests as:

- **Expanded Career Pathways** : Opportunities in digital libraries, research data management, corporate knowledge systems, and educational technology.
- **Enhanced Job Readiness** : Graduates who demonstrate AI literacy and adaptability become attractive candidates for employers seeking innovation-oriented professionals.
- **Professional Resilience** : Graduates equipped with both technical and ethical competencies can withstand disruptions (e.g., automation replacing traditional cataloging jobs).
- **Global Competitiveness** : AI-trained LIS graduates can secure employment beyond traditional libraries, entering roles in data governance, digital humanities, and even AI project management.

3.Visual Model (Textual Form) :

[AI Integration in LIS]
   ↓
(Automation, IR, Chatbots, Data Mining, Digital Preservation)
   ↓
[Graduate Competency Transformation]
   ↓
(Technical → Analytical → Ethical → Adaptive Skills)
   ↓
[Employability Outcomes]
   ↓
(Expanded Careers, Job Readiness, Resilience, Global Competitiveness)

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

334

4. Theoretical Implications :

- The framework demonstrates that **AI is both a disruptor and an enabler**: it reduces demand for traditional skills while generating new, high-value opportunities.
- Employability is not solely about **technical mastery**, but about integrating **AI literacy with ethical awareness** and **adaptive learning**.
- This positions LIS graduates as **knowledge workers in a digital society**, bridging the gap between traditional librarianship and the AI-driven future

Focus of Article :

The accelerating development of Artificial Intelligence (AI) has altered the fundamental structures of knowledge creation, organization, and dissemination. While libraries and information centres have traditionally been associated with cataloging, classification, reference services, and information retrieval, the integration of AI technologies has shifted these functions toward more automated, dynamic, and user-centered processes. This article focuses specifically on how such transformations influence the **employability of Library and Information Science (LIS) graduates**, emphasizing the skills, knowledge, and attitudes they must acquire in order to thrive in an AI-driven labour market.

The primary focus lies in **bridging the gap between AI adoption in libraries and the career prospects of graduates in LIS programs**. Much of the existing scholarship has concentrated either on the technological innovations within libraries or on curriculum reform in LIS education. Few studies, however, have attempted to synthesize these two perspectives and examine how technological change directly translates into employment opportunities—or employment risks—for new graduates. By focusing on employability, this article positions AI not merely as a set of tools, but as a driver of professional identity, career pathways, and labor market dynamics in LIS.

A key area of focus is the **transformation of graduate competencies**. AI adoption has reduced the reliance on manual skills such as physical cataloging and traditional metadata entry, while simultaneously increasing demand for new skill sets including data literacy, machine learning awareness, text and data mining, digital preservation, and AI ethics. The article explores how LIS programs can adapt to ensure that graduates acquire these competencies, and how employers evaluate such skills when making hiring decisions. Special attention is given to the balance between technical proficiency and critical ethical reasoning, as employability in the AI era requires both.

Another central focus is the **expansion of employment horizons** for LIS graduates. While libraries remain important employers, AI skills also open doors to careers in research institutions, corporate knowledge management, educational technology, digital humanities, publishing, and information governance. The article highlights how graduates can position themselves competitively in these diverse contexts, and how AI competencies can enhance global employability by making LIS professionals relevant across borders and sectors.

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

335

IMPACT FACTOR
5.473(SJIF)

UPA NATIONAL E-JOURNAL
Interdisciplinary Peer-Reviewed Indexed Journal

ISSN
2455-4375

Ultimately, the focus of this article is to provide a **comprehensive understanding of how AI is reshaping the LIS employment landscape**. By analyzing the intersection of technology, education, and employability, the article aims to offer practical insights for students, educators, employers, and policy-makers. It seeks to answer critical questions:

- How is AI changing the roles and responsibilities of LIS professionals?
- What competencies must LIS graduates acquire to remain employable?
- What challenges and risks must be managed to ensure sustainable career opportunities?
- How can LIS education and policy frameworks support graduates in adapting to this transformation?

Applications :

1. Automation of Cataloguing and Metadata Creation :

AI-powered systems can automatically generate and enhance metadata through natural language processing (NLP) and machine learning algorithms. Automated cataloguing reduces repetitive manual tasks while improving accuracy and consistency in classification and indexing.

- **Employability Implication :** Graduates must shift from manual cataloguing skills to supervising, evaluating, and refining AI-driven metadata processes. This requires knowledge of metadata standards, algorithmic functioning, and quality control. Graduates who can combine technical oversight with subject expertise become valuable assets in digital libraries and archives.

2. Intelligent Information Retrieval and Recommendation Systems :

Machine learning and semantic search algorithms enable libraries to provide personalized information retrieval experiences. Recommendation systems suggest books, articles, or resources tailored to user needs, similar to commercial platforms like Amazon or Netflix.

- **Employability Implication :** LIS graduates with competencies in information retrieval, data analysis, and user experience (UX) design can position themselves for roles in digital libraries, corporate knowledge centers, and online education platforms. Understanding how algorithms filter and rank information also enhances graduates' credibility in teaching users about information literacy.

3. Chatbots and Virtual Reference Services :

AI-driven chatbots are increasingly used in libraries to provide 24/7 assistance to patrons. These virtual assistants answer frequently asked questions, guide users to resources,

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

336

IMPACT FACTOR
5.473(SJIF)

UPA NATIONAL E-JOURNAL
Interdisciplinary Peer-Reviewed Indexed Journal

ISSN
2455-4375

and reduce the workload of staff.

- **Employability Implication :** Graduates involved in designing, implementing, or managing chatbot systems acquire practical experience with AI-human interaction. Skills in chatbot script writing, dialog flow, and multilingual support enhance employability in knowledge management, customer service industries, and digital user support roles outside of traditional librarianship.

4. Text and Data Mining for Research Support :

Libraries increasingly support research by offering text and data mining (TDM) services. AI tools allow for the extraction of patterns, trends, and insights from large datasets, which is vital for digital scholarship.

- **Employability Implication :** Graduates who gain proficiency in TDM tools and data analytics can transition into research-intensive roles in universities, think tanks, and corporate R&D. These skills also open opportunities in data science-adjacent careers, significantly expanding employability beyond the library sector.

5. Learning Analytics and Personalized Education Support :

Libraries contribute to student learning by using AI-based analytics to assess user engagement, track resource usage, and support personalized learning pathways. These insights help faculty and administrators design targeted academic support.

- **Employability Implication :** LIS graduates trained in learning analytics can contribute to educational technology teams, institutional planning, and academic development roles. This positions them at the intersection of education and technology, an expanding field with global employability potential.

Challenges :

1. Skill Gaps and Curriculum Deficiencies :

- A critical challenge is the **misalignment between LIS curricula and labour market requirements**. Many LIS programs continue to focus heavily on traditional skills such as cataloguing, indexing, and reference services, while offering limited exposure to AI, data science, or programming. As a result, graduates often lack hands-on experience with AI tools, machine learning basics, or data analytics, which are increasingly demanded by employers. The absence of AI-focused modules and practical training creates a significant employability gap.

2. Resistance to Change and Professional Identity Crisis :
- The adoption of AI is often met with skepticism among both faculty and students in

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

337

IMPACT FACTOR
5.473(SJIF)

UPA NATIONAL E-JOURNAL
Interdisciplinary Peer-Reviewed Indexed Journal

ISSN
2455-4375

LIS. Graduates may perceive AI as a threat to their traditional roles, leading to hesitation in adopting new technologies. Similarly, professionals already in the field may resist re-training, which in turn affects how graduates are mentored and supported. This results in a **professional identity crisis**, where graduates struggle to reconcile traditional librarianship with emerging AI-driven roles.

3. Limited Institutional Infrastructure

- Implementing AI requires advanced technological infrastructure, including high-performance computing facilities, access to large datasets, and licensed software tools. Many LIS schools, especially in developing regions, lack the resources to integrate AI into teaching and research. This infrastructural limitation reduces the opportunities for graduates to gain practical AI experience during their academic training, thereby weakening their competitiveness in the job market.

4. Unequal Access and the Digital Divide

- While elite institutions may adopt AI technologies rapidly, many universities and libraries face financial and logistical constraints. This creates a **digital divide** where graduates from resource-rich institutions are far better prepared for employment than those from underfunded programs. Such inequality exacerbates disparities in employability and reduces the overall inclusivity of the LIS profession.

5. Ethical and Legal Concerns

- AI raises complex ethical and legal issues, including data privacy, algorithmic bias, plagiarism detection, and intellectual property rights. Graduates entering the workforce must be prepared to address these challenges, yet most LIS programs offer little structured training in AI ethics. The absence of ethical literacy risks undermining professional credibility and can negatively affect employability, especially in sectors where data governance and fairness are central.

Solutions and Recommendations :

Solutions :

1. Integrate AI Skills into LIS Curriculum :

- **Solution** : Revise LIS curricula to include practical training in AI-related tools.
- **Details** :
  - Add courses on machine learning, natural language processing, data mining, and AI ethics.
  - Offer workshops on AI-powered library tools (e.g., chatbots, discovery systems, automated cataloguing).

2. Develop Industry-Academic Partnerships :

- **Solution** : Collaborate with AI companies and digital libraries.

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

338

IMPACT FACTOR
5.473(SJIF)

UPA NATIONAL E-JOURNAL
Interdisciplinary Peer-Reviewed Indexed Journal

ISSN
2455-4375

- **Details**:
  - o Internship programs and mentorships.
  - o Guest lectures from professionals in AI applications in libraries

3. Upskilling Through Continuous Professional Development (CPD) :

- **Solution** : Establish CPD programs for students and professionals.
- **Details** :
  - o Offer certifications in AI-related competencies.
  - o Organize bootcamps on data analytics, digital preservation, etc.

4. Promote Research in AI for LIS :

- **Solution** : Encourage graduate research in AI applications for libraries.
- **Details** :
  - o Funding and support for AI-driven thesis work.
  - o AI solutions for cataloging, metadata generation, and user behavior prediction.

5. AI-Powered Career Support Tools :

- **Solution** : Use AI to guide graduates on employability trends.
- **Details** :
  - o AI-driven job portals for LIS roles.
  - o Resume builders and mock interviews powered by AI.

 Recommendations :

For Educational Institutions :

1. **Embed AI modules** in core and elective LIS courses.
2. **Establish interdisciplinary departments** combining LIS and computer science.
3. **Encourage capstone projects** involving AI application in libraries.

For LIS Students and Graduates :

1. **Gain proficiency** in AI-related tools (e.g., Python, TensorFlow, OpenRefine, etc.).
2. **Take MOOCs or certifications** (Coursera, edX, LinkedIn Learning) in AI and data science.
3. **Build a portfolio** showing projects like:
   - o AI-based recommender systems
   - o Chatbots for library services
   - o Digital archiving using machine learning

For Employers and Libraries :

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

339

IMPACT FACTOR
5.473(SJIF)

UPA NATIONAL E-JOURNAL
Interdisciplinary Peer-Reviewed Indexed Journal

ISSN
2455-4375

1. **Adopt AI technologies** in information retrieval, cataloging, and user services.
2. **Hire graduates with hybrid skills** (LIS + AI/tech).
3. **Support internal training** for AI adoption in library system

Future Research Directions :

1. Evaluating AI Integration in LIS Curricula :

- **Focus** : Assess how LIS programs globally are incorporating AI topics.
- **Research questions** :
  o What percentage of LIS programs offer AI-related courses?
  o Are graduates with AI training more employable?
- **Methods**: Curriculum analysis, surveys of LIS schools, alumni outcomes.

2. Mapping AI Competencies Required in LIS Job Markets :

- **Focus** : Identify current and emerging AI-related skills demanded by employers in LIS roles.
- **Research questions** :
  o What AI tools or systems are commonly used in libraries?
  o What AI competencies are most sought after in job ads?
- **Methods** : Content analysis of job postings, interviews with HR professionals and library directors.

3. Impact of AI on Traditional LIS Roles :

- **Focus** : Study how AI is transforming roles like cataloguers, reference librarians, and archivists.
- **Research questions** :
  o Which LIS roles are most/least affected by AI automation?
  o How do professionals adapt to these changes?
- **Methods** : Case studies, longitudinal studies, professional surveys.

4. Employability Outcomes of LIS Graduates with AI Skills :

- **Focus** : Measure the career trajectory of LIS graduates who have AI exposure vs. those without.
- **Research questions** :
  o Do AI-trained LIS graduates find jobs faster?
  o Are they more likely to work outside traditional libraries (e.g., tech firms, data roles)?
- **Methods** : Alumni tracking, employer interviews, statistical comparison.

5. Institutional Readiness for AI Education in LIS :

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

340

- **Focus** : Assess the capacity of LIS schools to teach AI effectively.
- **Research questions** :
  o What barriers exist to integrating AI in LIS education?
  o Are faculty equipped to teach AI tools and concepts?
- **Methods** : Institutional surveys, interviews with LIS faculty.

Conclusion :

The integration of Artificial Intelligence (AI) into Library and Information Science (LIS) is transforming the profession in profound ways. AI technologies are reshaping how information is organized, accessed, preserved, and delivered, leading to increased efficiency and more personalized user services. As libraries adopt AI tools such as chatbots, automated cataloguing systems, and intelligent search algorithms, the competencies required of LIS professionals are also evolving.

This shift has direct implications for the employability of LIS graduates. Traditional LIS skill sets, while still essential, are no longer sufficient on their own. Employers increasingly value hybrid professionals who possess both foundational LIS knowledge and technical competencies in areas such as data analytics, machine learning, and digital curation. Graduates with exposure to AI concepts, tools, and ethical considerations are better positioned to meet the demands of a rapidly changing information environment.

To ensure LIS graduates remain competitive in the job market, there is a critical need for curriculum reform, industry collaboration, and continuous professional development. Academic institutions must take a proactive approach by integrating AI-related content into LIS programs, promoting interdisciplinary learning, and supporting practical, hands-on experience with emerging technologies.

In conclusion, the adoption of AI in LIS is not a threat to graduate employability, but an opportunity—provided that educational systems, students, and professionals are willing to adapt. Preparing the next generation of LIS professionals to thrive in an AI-driven landscape will require a coordinated and future-focused response from academia, industry, and policymakers alike.

References :

- Tait, E., & Pierson, C. M. (2022). *Artificial Intelligence and Robots in Libraries: Opportunities in LIS Curriculum for Preparing the Librarians of Tomorrow.* Journal of the Australian Library and Information Association, 71(3), 256–274. https://doi.org/10.1080/24750158.2022.2081111 (Taylor & Francis Online)
- Hasan, N., Saifullah, M., & Hashmi, A. H. (2024). Application of Artificial Intelligence in Libraries: Benefits and Drawbacks. *Journal of Data Science, Informetrics, and Citation Studies, 3*(2), 98–105. https://doi.org/10.5530/jcitation.3.2.12 (jcitation.org)

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

341

- Islam, M. N., Ahmad, S., & Aqil, M., et al. (2025). Application of artificial intelligence in academic libraries: a bibliometric analysis and knowledge mapping. *Discover Artificial Intelligence, 5*, 59. https://doi.org/10.1007/s44163-025-00295-9 (SpringerLink)

- Shamsitdinova, M., Khashimova, D., Niyazova, N., Nasirova, U., & Khikmatov, N. (2024). Harnessing AI for Enhanced Searching in Digital Libraries: Transforming Research Practices. *Indian Journal of Information Sources and Services, 14*(3). https://doi.org/10.51983/ijiss-2024.14.3.14 (The Research Publication)

- Zahida, H. (2024). The Role of Artificial Intelligence in Library Management Systems. *ShodhKosh: Journal of Visual and Performing Arts, 5*(5). https://doi.org/10.29121/shodhkosh.v5.i5.2024.4569 (Granthaalayah Publication)

- Baber, M., Islam, K., Ullah, A., & Ullah, W. (2025). Libraries in the Age of Intelligent Information: AI-Driven Solutions. *International Journal of Applied and Scientific Research, 2*(1). https://doi.org/10.59890/ijasr.v2i1.1295 (MultiTech Publisher)

- Das, R. K., & Islam, M. S. U. (2021). Application of Artificial Intelligence and Machine Learning in Libraries: A Systematic Review. *arXiv preprint*. Retrieved from https://arxiv.org/abs/2112.04573 (arXiv)

- Ali, M. Y., Naeem, S. B., & Bhatti, R. (2024). Artificial Intelligence (AI) applications and usage among the LIS professionals of Pakistan. *Journal Name*, advance online publication. https://doi.org/10.1177/09610006241241306 (SAGE Journals)

- Akinola, S. A., & Zubairu, A. N. (2023). Contemporary Library and Artificial Intelligence Technology. *Journal Name*. https://doi.org/10.1177/09557490241231483 (SAGE Journals)

- Pence, H. E. (2022). Future of Artificial Intelligence in Libraries. *The Reference Librarian, 63*(4), 133–143. https://doi.org/10.1080/02763877.2022.2140741 (Taylor & Francis Online)

- Tella, A., & Ajani, Y. A. (2022). Robots and public libraries. *Library Hi Tech News, 39*(7), 15–18. https://doi.org/10.1108/LHTN-05-2022-0072 (Emerald)

- Shahab, M., Jan, R., Jan, S. U., Bahadar, M., Muhammad, I., & Khattak, K. (2024). Artificial Intelligence for Decision Making by Library Managers: A Pakistani Perspective. *Policy Research Journal, 2*(4), 654–661. (Retrieved from) https://policyresearchjournal.com/index.php/1/article/view/115 (policyresearchjournal.com)

- Felcy, D. (2024). Awareness and Adoption of AI Technologies in the Libraries of Karnataka. *arXiv preprint*. Retrieved from https://arxiv.org/abs/2407.18933 (arXiv)

- Husni, L., & Armizawati, A. (2024). Utilization of Artificial Intelligence in Libraries as a Form of Library Development. *Proceeding Annual International Conference of Imam Bonjol Library*, 79–85. Retrieved from https://proceeding-perpus.uinib.ac.id/index.php/AICIBLib/article/view/2 (proceeding-perpus.uinib.ac.id)

- Nosratabadi, S., et al. (2022). Artificial Intelligence Models and Employee Lifecycle Management: A Systematic Literature Review. *Journal/Preprint Name* (if available). [You need to look up DOI]

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

342

- "Artificial intelligence skills and their impact on the employability of university graduates." (2024). *Frontiers in Artificial Intelligence*. [You need to locate authors, volume, pages, DOI]

- "Predicting Graduate Employability Using Hybrid AHP-TOPSIS and Machine Learning: A Moroccan Case Study." (2023). *Technologies, MDPI*. [Please locate full author list and DOI]

- "Predicting Early Employability of Vietnamese Graduates: Insights from Data-Driven Analysis Through Machine Learning Methods." (2023). *Education Sciences, MDPI*. [Obtain full citation and DOI]

- Mäkelä, E., & Stephany, F. (2024). Complement or substitute? How AI increases the demand for human skills. *arXiv preprint*. Retrieved from https://arxiv.org/abs/2412.19754 (arXiv)

- "The essential skills and competencies of LIS professionals in the digital age: alumni perspectives survey." (2021). *Journal Name / Emerald*. [Fill in missing parts — authors, volume, pages, DOI]

Published in Collaboration with
Central Library, Dhanwate National College, Nagpur
Department of Library & Information Science, R. T. M. Nagpur University, Nagpur
Volume-11 (2025) : Issue-1 (October-2025)

343