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Future of AI and Historical Studies: Human–AI Collaboration and the Changing Role of Historians

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Abstract
Historians are transforming their collection, organisation, transcribing, analysing and interpreting work with artificial intelligence (AI). Big archives of manuscripts, newspapers, government documents, maps and photographs have now been digitized. The use of AI technologies can help researchers locate relevant resources and analyse evidence in a way that is often challenging using manual methods. With OCR and HTR, printed and handwritten documents are more searchable. Categorisation, information extraction, translation, document comparison and interpretation of historical data and sources can be done using Natural Language Processing (NLP) and Large Language Models (LLMs). It is possible that artificial intelligence can be applied to the reconstruction of missing texts and patterns on historical data sets as well. This paper discusses the opportunities of AI in historical analysis and the evolution of the role of the historian. It indicates the real-world challenges facing Pakistan and India where the records being multilingual (poorly digitised), with different administrative classifications, cause specific complications. It states that AI ought to aid, but not supplant, historical thinking. Automated outputs can be full of transcription errors, incorrect references, cultural bias and incorrect reconstructions. They may also be used to fill gaps in archives. Historians need to evaluate the origin of sources, examine the details that they have found, retain the original language of sources and defend their analysis decisions. The collection of the sources, their digital organization, transcription, human verification, analysis and explanation are all connected into a responsible process. Documenting of tools and modifications is clear, and it enhances repeatability. Conclusions should be subject to discussion. The future of historical writing will be human-AI partnership. Through computers it is possible to do even more research, but historians must still furnish the context, the evidence and the conclusion. It takes a qualitative approach to academia literature, containing examples of an archival operation and cases of AI applications.

Keywords: *AI; historical studies; historiography; digital archives; historical data; OCR; HTR; LLMs; Ithaca; Transkribus; reconstruction; South Asia; human–AI collaboration.*

1. Introduction

History has always been evolving with the introduction of new tools. Printing increased the spread and availability of texts. Photography provided new types of visual records. The use of microfilm made distant

archives more accessible. The computer was used to assist in quantitative history. The internet made digitized collections more available. AI is the next step in this extended process. It provides new methods for finding, organizing, reading, comparing, and interpreting evidence. It, nonetheless, brings various kinds of risks such as copious text, fabricated citations, and factual and contextual errors, problems of ethical judgment, and inherent biases of the digital archives. The intellectual challenge of the historian has remained the same. Historians pose questions, gather evidence, analyze sources, and compare accounts. They describe continuity and change. They construct arguments that can be examined by other scholars. Digital tools can enhance each step, but speedy processing is not necessarily a superior historical judgment. Lesk (2005) and Milligan (2019) argue that the amount of digital material is so great that it alters the way historians work. Salmi (2020) also puts it forward that the digital history is also a field of methods, rather than just a repository of electronic sources.

AI can be used to augment the research techniques in historical studies. Machine learning discovers patterns in data. Computer vision is a field of computer science that deals with the analysis of images. Natural language processing research is on language in large collections. Optical Character Recognition (OCR) is a technology that reads printed text and transforms it into searchable text. Handwritten text recognition (HTR) is the recognition of manuscripts. Generative AI can propose summaries, classifications, translations, and research questions. These functions can be useful to a researcher with thousands of documents to deal with. All of these tools, however, can also generate and/or mask errors when the results are taken at face value by the historians without cross-checking and critical evaluation. This difference is significant in South Asia. English, Urdu, Persian, Arabic, Hindi, Punjabi, Bengali, Tamil, and other languages are found in the archives in Pakistan and India. Scripts vary from time to time and place to place. Not all records have been digitised. Some are broken or scattered. Others were structured in a colonial fashion. Scientists are thus confronted with technical and historical challenges. The studies conducted in the National Archives and Punjab Archives in Pakistan reveal that cataloguing, resources, and institutional planning are required for digitization (Hafeez & Arshad, 2024; Nawaz et al., 2024). Indian research looks at challenges to DH infrastructure and to machine reading of regional scripts (Shanmugapriya & Menon, 2020; Sharma & Kaushik, 2020).

This article is a simple one that says that AI can help with historical research, but it should not be a source of information about the past. It has the most useful application in five interrelated tasks. These include collecting sources, organizing records, transcribing and reconstructing evidence, analysing historical data, and drawing supported conclusions. A tool is needed for each task. There is also a decision to be made by a historian for each. The next sections explore both aspects of this partnership.

Research Questions

The following three main research questions are used to guide the research.

1. How can Artificial Intelligence (AI) tools enhance the collection, organization, transcription, reconstruction, and analysis of historical sources without compromising the accuracy and reliability of historical evidence?
2. What methodological, ethical, and practical issues are raised by the use of AI in historical research, including issues of authenticity of sources, algorithmic bias, historical context, and the interpretation of historical data?

3. How can human–AI collaboration change the nature of historical research and the historian's role without diminishing his responsibility for source criticism, verification, interpretation, and reconstruction of the past?

2. Digital History to AI-Assisted History

The rise of generative AI is not the first time digital history has been a part of history. Databases, scanning, geographic information systems, digital catalogues, web archives, and statistical software were already being used by historians. These tools revolutionized the scope of research. They also altered the questions that scholars could pose. A collection of newspapers that can be searched can illustrate the evolution of a political term. A map can show the flow of people or institutions. Biographies from different sources can be linked to a database.

The large digital archives offer new sources of evidence to historians, but also pose methodological and practical challenges. As the number of historical documents increases, it is hard for researchers to review all the documents by hand (Lesk, 2005). Search and computational tools can be used to find relevant information and show relationships within large collections. Digital archives, however, are not comprehensive or unbiased. Websites are gone, and institutions are saving and scanning content based on specific priorities. Archival structures and retrieval systems (Milligan, 2019) are also important factors in search results. The choice, description, classification, and availability of historical sources affect the understanding of the past by future researchers (Zaagsma, 2023).

Artificial Intelligence (AI) extends this digital infrastructure with sophisticated techniques for analyzing historical data. Artificial Intelligence (AI) takes this digital infrastructure further by adding sophisticated techniques for analyzing historical data. AI can categorize images, identify handwritten text, find names and dates in images, and compare documents for similarity. It can also rank search results according to their relevance. These applications are useful for making research more efficient, but cannot fill in gaps in historical collections. The quality and organization of the evidence that is available to the computational analysis will determine its effectiveness (Stewart & Sinha, 2025). Digital historical research has multiple stages, all of which are interrelated. Physical documents are initially chosen, scanned, and stored as digital images. The metadata are then written to document their source, content, and archival location. Printed and handwritten documents can be converted to machine-readable text using Optical Character Recognition (OCR) and Handwritten Text Recognition (HTR). AI-powered extraction tools can then be used to structure data into databases. Stewart & Sinha (2025) point out that the analytical software allows historians to make comparisons of large collections and look for patterns, but there can be mistakes at each step, and verification is crucial. Historical newspapers are a good illustration of this process. Scanning creates digital copies, and OCR creates searchable text from printed pages.

Large Language Models (LLMs) are AI systems that process and generate human language. They can be used by historians to aid in the study of primary sources, historiography, archival documents, historical texts, and scholarly literature. They can assist researchers in working more efficiently, but their products need to be verified with original sources and good scholarship (Baig, 2026; Cha, 2026). Automated tools can identify the individuals and places in articles and classify recurring themes. Topic modelling can also show how political and social topics have evolved over time. However, the results may be misleading

due to damaged pages, inaccurate transcription, and changing historical terminology. Digital newspaper collections, therefore, need to be carefully evaluated and compared to original sources (Bingham, 2010). Digital history does not take the place of the historian's intellectual obligations. Instead, it provides other ways of gathering, sorting, sifting, and analyzing historical evidence. While AI opens up new avenues for research, it also raises the importance of being transparent, critical of the sources, and accurate in methodology. Historical interpretation should be based on substantiated evidence and an awareness of the historical context of the production of records (Millagn, 2019; Zaagsma, 2023).

3. Using AI Tools to Collect Historical Sources.

The gathering of historical sources is an essential part of the historical research process because the reliability of historical interpretation is dependent on the availability, authenticity and relevance of the sources. Artificial Intelligence (AI) has brought new techniques for finding, identifying, gathering, and accessing historical materials from digital archives, libraries, museums, and institutional databases. AI-powered search tools can help historians find manuscripts, official documents, newspapers, letters, photos, and other primary sources in large digital archives (Milligan, 2019; Salmi, 2020). The usefulness of these tools is dependent on the quality of the digitization, archival organization, and metadata available (Zaagsma, 2023). The next sections discuss the applications of AI in archival discovery, automated source identification, archival digitization, and multilingual historical records collection. They also recognize the need for source selection, authenticity, and human verification in the creation of reliable historical collections.

3.1 Finding, Identifying and Selecting Archival Sources

The gathering of historical sources is the first step in historical research. Historians identify and choose evidence that is relevant to their research questions and objectives. Sources that can be used for historical information include government reports, private correspondence, diaries, newspapers, maps, photographs, inscriptions, oral histories, land records, and administrative registers. Historical knowledge and critical judgement are needed in the selection of sources. A study of political administration, for instance, will need other evidence than a study of family life or social relations. Digital technologies can assist in this process, but cannot take the place of the historian's role in choosing suitable sources (Salmi, 2020; Milligan, 2019).

New opportunities for the discovery of historical materials have emerged with the use of online catalogues, digital archives, and institutional repositories. Search engines—including Google Scholar, Academia.edu, ResearchGate, and archives of Open Access journals—assist researchers in finding documents by name, date, location, and topic. AI-powered semantic search can also find relevant records even if they do not contain exact keywords. These tools can identify alternate spellings, similar phrases, and historic place names. This is especially helpful when records are in multiple languages or when names are misspelled or have multiple spellings for the same name, both in personal names and geographical names. The accurate metadata and linked information also enhance the discovery and accessibility of archival collections (van Hooland & Verborgh, 2014).

Although these are the benefits, there are some drawbacks to digital searching. The results of a search will vary based on the availability, selection, description, and indexing of historical materials. There may be documents and manuscripts that have not been catalogued, handwritten records, or documents that

are kept in smaller institutions that are not available via digital systems. Preservation of archives is also influenced by priorities, resources and judgements made on the relevancy of historical events. Consequently, digital collections should not be considered as a representation of the complete picture of the past. AI-powered searching is simply one of the tools that historians have at their disposal; it will be necessary to utilise it in conjunction with other resources, such as archive guides, published bibliographies, local inventories, and the inspection of actual materials. Using this comprehensive method, the source collection can be developed and at the same time retain its originality, time-related and methodological reliability.

3.2 The Pakistani Archival Setting

Within the context of historical study, digitising archives and using artificial intelligence give valuable insights into the opportunities and challenges that Pakistan is now facing. The digitisation of archives and the use of artificial intelligence in studying history can provide important insights into what opportunities and challenges are possible and already affecting Pakistan. The results of the study conducted on National Archives of Pakistan and Punjab Archives in Lahore indicate the importance of digitisation in terms of historical document preservation and enhancement of access to the data in archives. The study focus more on the preservation of the archive materials and availability of the digital content, instead of the efficient use of the advanced artificial intelligence systems. Going by the results, trustworthy digital collections, accurate metadata and organised archives in a structured fashion are the most significant factors contributing to the successful application of artificial intelligence in historical research.

Research on the history of Punjab needs to be done using a variety of sources such as colonial correspondence, revenue records, judicial records, district reports, and regional publications. The materials can be in English, Urdu, Persian, or other local languages, which poses extra difficulties for digitization and automated analysis. Furthermore, the colonial administrative records may not capture the experiences of marginalised communities due to institutional priorities and political views. Digital technologies can help to make these documents more accessible, but historians need to be critical about their sources, intentions, constraints, and history (Hafeez & Arshad, 2024; Nawaz et al., 2024). The archival project in Pakistan can be initiated with a well-chosen set of documents from a specific department and time period, with the assistance of an AI system. Researchers could create an inventory, scan the selected records, create standardised metadata, and set up searchable databases. Then, representative samples could be used to test the Optical Character Recognition (OCR), handwriting recognition, and automated classification tools. The accuracy and reliability of their system should be tested by human verification before expanding the system to larger archival collections. This proposed approach would enhance the historical data collection, organization, transcription and analysis, while preserving the critical role of historians in assessing the evidence and interpreting historical events.

3.3 India and the Issue of Access

Infrastructure is also a key concern for Indian digital humanities scholars. Shanmugapriya and Menon (2020) talk about digital research Practices in India and explore the challenges of unequal institutional support, equipment, software, and training by illustrating previous projects like Project Madurai and the

digital work on Rabindranath Tagore. These problems are related to the construction and analysis of collections (Shnmugapriya and Menon, 2020).

The lessons for both countries are clear. Without catalogues, poor preservation, and selective digitization, better AI cannot make up for it. Collections should continue to be purposeful. Researchers should document the founders, contributors, and authors of the archives, the content of the archive, what is excluded from the archive, and the way that material is added to the digital system. The history of the archival collections is a part of any given subject matter in historical studies about the material of those archives.

4. Organizing Historical Data and Building Databases

After gathering historical sources, it is important to systematically arrange them for effective research. An unorganized digital collection can cause problems like an unorganized physical archive. Historians need consistent file names, accurate descriptions, standardized dates, organized folders, and reliable connections between the original images and the transcribed documents. Artificial Intelligence (AI) can help in these activities by enhancing classification, indexing, and information retrieval. But automated systems are not always able to accurately determine historical categories. Digital collections still need human oversight to guarantee reliability and accessibility (van Hooland & Verborgh, 2014; Owens, 2018). Historical information can be structured in a database with individual records for persons, events, documents, places and transactions. Records should be identified by a unique identifier and have well-defined fields for ease of searching and comparison. Some personal names may need to be spelt in both their original and standardised spelling, and historical dates may need to be spelt and converted. Likewise, geographical records should also contain historical place names and their current names. Incomplete information should be clearly marked as such, and information that is not certain should not be given as fact. These practices enhance data transparency, consistency, and future research applications (Wilkinson et al., 2016).

Metadata are an integral part of the organization and preservation of historical sources. They identify, trace, and explain the identity, origin, and features of digital documents, and where they are housed. Some of the metadata elements that are important are the repository name, collection number, date, author, language, script, page count, physical condition, copyright status, and details of the digitization process. The Optical Character Recognition (OCR) software, Handwritten Text Recognition (HTR) model, transcription corrections, annotation history, and confidence scores can also be recorded in advanced research databases. This type of information enables researchers to follow the connection between the original document and the digitally processed evidence. Good metadata also enhances the accessibility, verification, and re-use of historical collections (van Hooland & Verborgh, 2014; Wilkinson et al., 2016).

AI tools for document classification can help historians categorize various types of documents, such as letters, government orders, petitions, and administrative reports. LLMs and NLP techniques can be used to identify personal names, institutional titles, geographical locations, and repeated expressions in large collections (Kansteiner, 2022). These tools can also help to find possible mentions of the same historical person in various documents. Spelling, official titles, honorifics, and historical terminology, however, can cause identification errors. The names can be the same for different people and can be multiple names

for one person. Thus, the historical verification of automated recognition and matching must be done carefully (Ehrmann et al., 2023).

Historical information can be organized in a variety of ways, such as relational databases, spreadsheets, digital collection management systems, and linked-data platforms. These systems can be assisted by OCR, HTR, NLP, and LLMs, which can transform the scanned records into searchable and structured data sets. A good research process should leave the original document image, machine-generated text (if any), verified transcription, and final structured data as distinct but interrelated documents. This is important because if the raw text is replaced with corrected versions, transcription errors may be hidden. Likewise, the use of modern place names instead of historical ones can make it difficult to see changes in geographical identity. These records are kept separately to facilitate transparency, digital preservation and reproducibility (Owens, 2018; Zaagsma, 2023). A historical research project on educational institutions in colonial Punjab, for instance, could create a database of the names of schools, districts, dates of establishment, categories of institutions, languages of instruction, student enrolment, and archival references. Annual educational reports and administrative records could be utilized to gather relevant information using AI tools. But the definition and type of educational institutions can vary from one era to another. Comparisons between regions and decades may be affected by changes in district boundaries. Historians need to first define the categories of research and confirm the historical context before they can interpret the patterns in the statistics. Digital information does not necessarily lead to reliable historical analysis (Zaagsma, 2023).

5. Transcribing Historical Sources: OCR and Handwriting Recognition

Transcription is the process of converting an image or manuscript into text. One of the most time-consuming aspects of archival research. OCR is primarily used for printed documents. HTR is handwriting-oriented. Both can save a lot of time. Both make mistakes. The transcript should then be considered a research product and not the original source. Muehlberger and colleagues (2019) demonstrate the use of Transkribus for the recognition of archival handwriting. Their study is a good example of the importance of the use of historical material in training models. In a subsequent systematic review of the research on Transkribus, researchers identified that HTR had proven to be useful in heritage work, and that institutional practices and evaluation were still relevant. Sánchez and colleagues (2019) also provide benchmarks for the evaluation of HTR of historical documents. The studies are consistent with a guarded conclusion. Machine transcription can be useful for many projects, but will vary based on the collection.

5.1 A Careful Transcription Workflow

The transcription process starts with good quality digital images. The pages should be in the proper sequence and be oriented the same way with good detail. The script and document layout are identified by historians or technicians. Then they choose an appropriate Optical Character Recognition (OCR) or Handwritten Text Recognition (HTR) tool. A sample that is handwritten is used to compare machine output. Reviewers compare the text generated with the original images after processing. They fix mistakes and record each change. Character error rate and word error rate are commonly used to measure recognition accuracy. These measures are helpful, but do not provide historical reliability by themselves. An incorrect number can skew population statistics, and an incorrect name can lead to confusion of identity. A missing negation can even turn a political statement upside down. High accuracy

does not mean that significant passages do not need to be closely verified. Diplomatic and normalised transcriptions should be maintained in reliable editions. The diplomatic version is the original spelling, punctuation, and irregularities are preserved. The normalised version is for easier searching. Researchers should record all changes and clearly indicate any parts that are not readable, not taking anything for granted that can be completed by AI.

5.2 Urdu and Other South Asian Scripts

Special challenges are presented by the documents of South Asia. Urdu is an Arabic script. The shapes of letters change according to their position. Ligatures, diacritics and connected letters may cause recognition problems. Older printing methods and handwritten registers make it more difficult. Persian, Arabic and regional scripts present similar, but different, issues. These sources should not be taken for granted as being suitable for a general English OCR tool. Sharma and Kaushik (2020) provide an overview of handwritten Indic script recognition and highlight the ongoing challenges. In their study, Jindal and Ghosh (2023) have explored segmentation of ancient handwritten Devanagari and Maithili documents. The ICDAR 2023 Indic handwriting recognition competition also shows the work done in various Indian scripts such as Urdu. These are helpful technical context initiatives. They do not demonstrate that one model is successful with all historical documents (Jindal & Ghosh, 2023).

A set of training documents may be required for a specific project for a Pakistani historian, an Urdu newspaper, or a Persian revenue document. A sample should be annotated by reviewers who are familiar with the language and period. That sample can be used by technical experts to assess recognition. The original image and all corrected versions can be preserved by the archivist. The best outcome might be a searchable but incomplete transcript that leads the historian to the page. It is not necessary to have everything automated for it to be a true research value.

5.3 Translation without Loss of Meaning

Historical records can be made accessible in multiple languages with the help of AI-assisted translation. However, fluency is not a guarantee of historical accuracy. Persian, Urdu, Sanskrit, and regional language words can have legal, religious, administrative, and historical connotations. Translation tools can generate parallel texts, find common words, and facilitate comparison between archives. Despite the progress made in multilingual machine translation in India with the research project “IndicTrans2”, the need for expert review remains (Gala et al. 2023; Kansteiner, 2022). Historians should retain the original text, mark up any ambiguous phrases, and verify names, dates, and words. Human verification ensures the context and avoids erroneous historical interpretations (Salmi, 2020; UNESCO, 2023).

6. Reconstructing Damaged, Incoherent and Incomplete Historical Sources

Both history and historical evidence are not always complete; the pages may be torn, inscriptions can be divided, ink may fade, and photographs are susceptible to damage. A document can only be found in parts. AI can suggest restorations, make comparisons of repeated passages, and suggest possible missing characters. This type of work is beneficial. It should be clearly differentiated from a verified reading. The Ithaca project provides a good example. Assael et al. (2022) have created a system to help restore and attribute ancient Greek inscriptions. It provides forecasts for missing text, location, and date. Human experts found the model helpful, the study said. The outcome is in favor of a collaborative approach. The machine provides suggested readings. They are tested by experts for language, chronology, geography,

and historical context (Assael et al., 2022). The same principles, approaches, and methods can also be applied to the South Asian sources. Repeated formulas may be found on an incomplete inscription, court record, or manuscript page.

AI might be able to compare the damaged passage with similar passages in other documents. It may propose a probable word. However, a common formula does not prove that a certain lost word was there. There has to be doubt in a restoration. The published edition should differentiate between visible letters, editorial supplements, and machine suggestions. The same concerns may apply to image enhancement. Software can enhance contrast, eliminate background noise, or brighten faded marks. It can also add made-up information. Generative image tools can produce a convincing surface that is no longer related to the surviving object. The original scan should be kept by the historian. An improved version must be labeled and have a record of processing steps.

Digital reconstruction is also possible for buildings, urban areas and heritage objects. A three-dimensional model can be made using maps, photographs, architectural plans and archaeological measurements. It can be used to test spatial relationships by researchers. It can be used to describe a site for a museum. However, some aspects of the model may be speculative. Elements that are documented and conjectural should be visually and verbally differentiated. Otherwise, a visitor might think that the reconstruction is a true record of the past. Reconstruction should be reversible and inspectable. The source image should be easily accessible to another scholar, who should be able to view the proposed supplement and determine why it was accepted. This need is the link between computational support and the standard textual criticism. AI can expand the potential number of restorations. Historians determine which, if any, can be justified.

7. Analyzing Historical Data with AI

Once sources have been gathered, described, and verified, analysis can begin. AI can aid in various types of inquiry. Can count words, find names, compare texts, group documents, map connections, and find unusual records. These techniques are effective with accurate questions. They are weak when a model generates patterns that have not been modeled or validated.

7.1 Text Mining and Analysis of Historical Subject Matter

Text mining analyzes patterns in a large number of documents. A historian could follow the use of the word “empire,” “security,” “reform,” or “citizenship” for several decades. The first step is an appropriate corpus. The second is an open way of counting or classification. The third is the reading of selected passages in their original context. However, frequency is not meaning. A word can be made common due to a newspaper’s format change. A new section can add to the number of references to a topic. OCR may be able to recognise one spelling over another. A colonial official can have a different meaning for a term than a political activist. Salmi (2020) and Milligan (2019) argue that the historian must make comparisons with the genre, audience, and political context of the source, for this is an appropriate balance of scale and history.

Topic modelling can cluster documents based on the common words in them. Those labels are not “historical facts”. A model can include letters relating to land, taxes, and village conflicts all in one bundle. Historians will need to read examples and determine if the cluster is a coherent issue. Different settings

should be used to test the results. Strong conclusions should not be supported by weak or unstable evidence or topics.

7.2 Names, Networks and Relationships

Named-entity recognition can identify people, places, and organizations. Then, network analysis can be used to analyze correspondence, collaboration, officeholding, or institutional connections. This can be useful to historians in the study of reform movements, administrative systems, scholarly circles, or political organizations. However, two names in the same document do not necessarily mean that they knew one another. Network links must be clearly defined. Historical data are also not equally visible. Senior officials are more likely to be in more records than regular workers. Men might be mentioned more than women in newspapers. The apparent network centre might be a survival rather than a power. The historian needs to study the reasons for some people being recorded and others not being recorded. These inequalities must be taken into account to make the quantitative results meaningful.

7.3 Maps, Time and Visual Evidence

GIS can link events to locations. Historical maps can depict changes in districts, trade routes, migration, religious institutions, or land use. Photographs and maps can be analysed with the help of computer vision. It can identify visual similarities or repeated features, or find similarities in large sets. El-Hajj and colleagues (2023) address explainability in the "Digital Humanities" and indicate why it is important for researchers to understand what special features affect machine classifications.

7.4 Compare Methods and Check Results

Artificial Intelligence (AI) historians should not take the findings of AI for granted, but compare the methods used to those of historical approaches. Text mining, pattern recognition, and machine learning should be complemented by traditional source criticism, contextual reading, and corroboration. Digital methods offer new possibilities, but need to be understood in the context of how tools handle historical data. Historians should verify AI-generated interpretations with original documents, archival sources, and independent scholarship, ensuring that quotes, dates, citations, and missing perspectives are accurate (Graham et al., 2022).

In addition to examining datasets and search procedures, researchers should also consider potential biases, as these can affect which sources are visible (Milligan, 2022). When comparing the outputs of various AI tools, it is important to note that while there may be some overlap, it does not necessarily mean they are accurate. While there may be some overlap in the output of various AI tools, it is important to note that this does not necessarily mean that they are accurate. Crawford (2021) also provides a good example of the need to examine the social and political context of AI systems. In the end, historians are still responsible for explaining their decisions, recording the steps they took to verify, safeguarding the sensitive materials, and separating out what they have concluded from what they have generated by machine. Responsible comparison ensures historical accuracy, methodological transparency, and public trust.

8. Deploying AI Tools for Historical Explanations

Pattern recognition using artificial intelligence (AI) is not the same as explaining the historical significance. A higher rate of a political term does not mean that public opinion has changed; a thick network of correspondence does not mean that there is a shared ideology; and an AI-generated date

does not necessarily mean that there is an accepted chronology. Historians need to relate the computational results to source criticism, historical context, and defensible interpretation (Baig, 2026; Presner, 2024). The first step in responsible analysis is to have a clear and testable question and a clear selection of sources. While AI can analyze passages, summarize documents, or compare vast amounts of data, historians must examine original documents, verify significant statements, and research conflicting narratives. AI systems can sometimes generate confident but incorrect responses, so it is important to verify their output (Naryanan & Kapoor, 2024).

Considering the educational policy in British India, AI can be helpful in automatically identifying enrolment of students in annual reports, comparing demography and boundaries of the districts, and plotting the location of schools. Growth, however, may be apparent due to changing counting methods, changing district boundaries, informal schools not being counted, or the political agendas of colonial administration. Only after considering these possibilities and recording uncertainties, can numerical trends be considered credible historical findings (Presner, 2024). AI can also be used to search for alternative explanations by finding documents, creating tables, and finding counterexamples. But model outputs can also capture the biases of the data used to train them, and can oversimplify complex historical experiences. Historians need to be able to maintain divergent points of view and refrain from equating correlation with causation (Vallor, 2024).

Historians need to distinguish four levels in the final account: what the primary sources say, what the computation finds, what the historian infers, and what is speculative. All quotations, dates, and bibliographic references must be checked against the original documents or against reliable scholarship. Fluency in presenting citations does not guarantee reliability, as citations can be generated by AI and may be inaccurate or fabricated (Mollick, 2024; Naryanan & Kapoor, 2024). Ultimately, AI is an aid to inquiry, not a substitute for historical responsibility.

9. Human–AI Collaboration and the Changing Role of Historians

The best future model is not an AI system that writes history. It is a research collaboration where both partners have a clear role. AI executes repetitive tasks on a large scale. It offers transcriptions, classifications, links, and patterns. Historians ask the question, develop the corpus, verify the sources, analyze the evidence, and support the argument.

One form of Historian-AI collaboration is exhibited in Ithaca—an AI machine that proposes possible restorations (Assael et al., 2022). Specialists are assumed to be responsible for judging them. The output is not an alternative to epigraphic knowledge. Another form of study of HTR is found in studies (Muehlberger et al., 2022). A computer program reads many pages of manuscript, and the errors are corrected by reviewers. In both, the value is derived from the combination of various abilities. This duty complements and enhances the traditional training. The knowledge of languages is still crucial. In the field of ancient history, AI-assisted analysis remains subject to the historians' knowledge of palaeography, chronology, archival practice, historiography and source criticism. There is an additional layer: digital literacy. AI will be more effectively used by historians who are familiar with the historical method and computational constraints, without compromising their judgment.

10. Epistemological, Methodological and Ethical Problems

The use of artificial intelligence (AI) in historical research raises important epistemological, methodological and ethical questions that need to be addressed. The issues raised are related to the trustworthiness and the interpretation of AI-generated knowledge, the validity of computational research methods, and the responsible use of historical sources and data. Epistemological Problems, Methodological Problems, and Ethical Problems are explored in the following subheadings, and their implications for historical accuracy, scholarly integrity, and the responsible use of AI in historical research are discussed.

10.1 Hallucination and Weak Evidence

Generative AI can generate misleading statements in assertive language. It can create a document, reference a book that does not exist, or give a wrong date. Walters and Wilder (2023) discovered that there was a significant amount of citation fabrication in their tests. The solution to this is to check each reference with a publisher, catalogue, database, or original source. Quotations, numerical information, and descriptions of historical events are no exception. An AI answer is not a primary source and should not be used as such by a historian. AI can assist in the search for evidence and can be used to explain technical steps. It is not a historical fact in itself. Claims must have a source. If there is no evidence, then there must be some uncertainty that is expressed (Tahir, 2026; Baig, 2025).

10.2 Archival and Algorithmic Biasedness

Historical archives are a record of unequal power relations. Poor and marginalised communities' experiences were underrepresented, and governments tended to retain administrative records. Historical records were also influenced by colonial classifications, and digitization can perpetuate these inequities (Blanke, 2024; Dentler et al., 2024). Selective digital collections can reinforce archival biases when used in the training of AI systems. Searchable collections can be very complete, even if there are many items that are not included. Historical evidence may also be inaccessible due to automated recognition tools that are not able to recognize damaged documents, unfamiliar scripts, and underrepresented languages (Carlson et al., 2024; Foka & Griffin, 2024).

It is therefore important for historians to record their data, such as geographical scope, languages, historical periods, digitization methods, and missing collections. They should independently check their calculations, analyse their recognition mistakes and evaluate the trustworthiness of digital sources. Importantly, the lack of search results does not mean that there is no historical silence, as there may be relevant evidence that has not been digitised or has been incorrectly processed (Lassen et al., 2024).

10.3 Context, Explanation and Reproducibility

Historical terms are subject to change. Language concepts are transferred. Words are used for various audiences by authors. These differences can be levelled by an AI summary. A text classifier can combine competing political viewpoints due to the common use of words. The historian needs to go back to close reading in a place of contestation of meaning. Reproducibility is also crucial. Research notes should include the name of the tool, the version of the model, settings, date of processing, and human corrections. The original material and the resulting data should be connected. El-Hajj et al. (2023) call for explainable approaches in DH. Transparency is not a frill. It is required to check the results of computation.

10.4 Copyright, Privacy and Community Responsibility

Copyrighted images, restricted documents, or personal information may be present in digitized archives. Not all online access allows for uploading to a third-party system. In its AI-related guideline, UNESCO (2023) highlights the importance of privacy, human agency, and responsible use of generative AI in research and education. Before using external services to process records, historians should verify the conditions at the institution. There are other questions raised by cultural heritage. A community can consider some documents, locations, or items to be sensitive. Technically, it might be possible to reconstruct it, but it might not be the right thing to do. Public presentation should be guided by attribution, consent (where appropriate), consultation and careful labelling. Representing a past community is not just about computing.

11. AI, South Asian Historiography and Historical Memory

The impact of artificial intelligence (AI) on historiography is not limited to enhancing research efficiency, but it also impacts the production and dissemination of historical narratives. AI systems summarize empires, revolutions, colonialism, and national histories, which can shape student and public memory. Historians need to be mindful of the need to critically evaluate the interpretations produced by AI and the use of AI in archival research (Hoskins, 2024; Presner, 2024). In Pakistan and India, colonialism, Partition, nationalism, and religion are still issues of contention, and these concerns are particularly pertinent. Language models can be biased towards English-language sources, ignore regional archives, or present conflicting interpretations as fact. But these risks cannot be assumed for all systems; they must be tested (Foka & Griffin, 2024; Singh et al., 2024).

The research from South Asia underscores the need for inclusive digitization and trustworthy tools for local languages. The Punjab Archives project is a good example of the opportunities and challenges of preserving Pakistan's historical records (Nawaz et al., 2024). Studies on the recognition of low-resource scripts also reveal technical challenges to access regional documents (Sharma et al., 2024). Historians should thus be involved in assessing the data sets, the coverage of the sources, the quality of the translations, and the categories of interpretation.

The authenticity of the images generated by AI is also a concern when it comes to Partition or colonial events. Visual reconstructions that are convincing can add fictional elements and should be identified as synthetic. The museums and classrooms need to differentiate between original photographs, restored materials, and imagined representations, and to make sure that historical claims are based on independently verifiable evidence and not on visual realism (Nieto McAvoy & Kidd, 2024).

12. Historical Studies and a Practical Human-AI Research Model

History education should continue to teach skills in archives, chronology, language, historiography, and critical writing and should foster the capacity to assess digital evidence. Students should also be able to identify permissions, privacy issues, and archival exclusions. While programming is optional, it is crucial to be able to judge sources and claims generated by AI (Cohen & Rosenzweig, 2025; Wineburg, 2018). A collection might be a good starting point for a methods course. Students would ask a question, explain why they chose a particular source, and document the source's provenance in an inventory and metadata table. They would obtain the material legally, use optical or handwritten text recognition on selected pages and correct the transcripts against the original images. They would then develop a data

set to analyze using a spreadsheet, mapping, or text mining. Original records would be referred to in reports, and gaps, recognition errors, and analytical limitations discussed (Kelly, 2013; Graham et al., 2022). These exercises help to separate technical outputs from past findings.

An unverified transcript is an output; a corrected and traceable transcript provides more evidence. A word-frequency chart is not a sufficient basis for establishing social change. This statement needs to be read in context, supported, and evaluated for alternatives. Similarly, a narrative created by AI can only be considered a defensible argument once the facts and references are verified (Presner, 2014; Naryanan & Kapoor, 2024). In the human–artificial intelligence research model, there are five stages. Historians choose the sources and write down the history of each source. More so, the use of digital tools can facilitate a more efficient process of transcription, organization, and extraction. Last but not least, the researchers verify the samples as well as all of the primary elements of the argument. Finally, historians also look at the evidence that has been analyzed in terms of political, cultural and temporal events. Fifth, they provide an explanation of how artificial intelligence fits in, admit the existence of ambiguity, and provide substantiated findings (Graham et al., 2022; Presner, 2024). The most correct way to start is to use sources and the computer processing, next, there should be human validation and interpretation of the history and then the findings should be documented. In order for AI to appropriately respond to historical facts, certain checks are required. It should become the basis of the teaching, evaluation, forming of collaborations with archives, defining the criteria of publication.

13. Evaluation of the AI–Human Collaboration and the Future Role of Historians

The idea of artificial intelligence cannot be taken as it is and be ignored when it comes to historical investigating. The usefulness of the research question, the evidence available and the human supervision all play a role in identifying its usefulness. Artificial intelligence can help to accelerate the process of going through vast archives, help with transcribing data, process data, compare papers, and even uncover concealed sources when needed. These are the skills that can expand the extent of historical research. Automation transforms work done in academic world, it does not substitute it (Kansteiner, 2022). Historians need to test models, rectify transcripts, keep a history of facts, verify numbers that have been pulled out and define categories of the analysis. Also, they have to solve the concerns related to access, copyright and privacy problems and also tie the results to the original records. Of importance is that any measure of efficiency put into consideration the number of time and resources that are necessary to accomplish these jobs.

It is possible to review the evidences and mistakes where humans are collaborating with artificial intelligence. Transcriptions should have pictures of documents attached to them, database records to archive references, and charts to the records on which they are founded. When carrying out the reconstructions, one has to single out any uncertainties. The historians must reveal how they have approved, edited or disapproved the suggestions that have been put forward by the algorithm. The latter is particularly crucial to remember in South Asia, where the lack of balance in digitization, the existence of many scripts and languages, as well as the absence of technical capabilities, make the automated analysis challenging. The cooperation of historians, archivists, computer scientists, and language

professionals may prove beneficial to enhance the accuracy; however, the availability of local knowledge and institutional ability also needs to be invested.

Further, AI could pose new research questions, when used responsibly. It can equip academics with the power to make comparisons and contrast dispersed collections, explore more extensive collections of evidence, challenge widely-held beliefs, and publish datasets that can be re-used by other researchers. These opportunities can only be used to improve historiography when the methodologies are transparent, open and publicized, the sources can be checked and a human judgment used to give an explanation. It should be the type of inquiries that evoke doubts and not the type of questions that hide assumptions that are used to derive historical findings.

14. Some Policy Recommendations

Policymaking that is both effective and efficient may further guarantee that artificial intelligence is used in historical research in a responsible and ethical manner. This method enhances the accuracy of historical information, provides cultural heritage, and equitable access to digital resources. These kinds of policies also encourage collaboration across academic lines, responsibility on the part of institutions, and the use of human judgment in the interpretation of historical events.

1. Artificial intelligence should be used in historical research in a manner that is ethical, transparent and responsible, and it is the paramount importance of educational institutions, archives, and research institutes that simple guidelines are established to regulate the ethical, transparent, and responsible use of artificial intelligence in historical research.
2. Before being utilized as historical evidence or published in scholarly publications, the results of artificial intelligence should be checked by historians who are equipped to see them.
3. It should be a top priority for governments and cultural organizations to digitize historical collections that have been neglected, especially those that come from underrepresented views, regional histories, and populations that have been excluded.
4. Governments should promote the creation of AI tools that can accurately process Urdu, Hindi, Bengali, Punjabi, Persian and other regional languages and historical scripts.
5. Archival institutions should adopt common practices for the production of metadata, for the accuracy of the transcription, for the identification of the source, and for the documentation of uncertainties.
6. Researchers should report on the use of AI tools, cite the original sources, and explain how computational results were verified when using AI.
7. Digital humanities, AI evaluation, archival analysis, and critical source verification should be integrated into undergraduate and postgraduate history courses at universities.
8. When implementing AI technologies, institutions should implement safeguards for sensitive archival materials, personal information, cultural heritage, copyright and community rights.
9. Research funding policies should encourage collaboration between historians, archivists, computer scientists, linguists and cultural heritage specialists for the creation of historically reliable AI applications.

10. Governments and funding agencies should support institutions with limited digital resources, especially in South Asia, in a sustainable way, with financial support, technical infrastructure, and professional training.

The recommendations offer a policy framework for the use of AI in historical scholarship, while maintaining historical accuracy, academic integrity, cultural diversity, and human interpretative responsibility.

Conclusion

Artificial intelligence is revolutionizing the field of historical study by enhancing the capacity of historians to find, arrange, transcribe, recreate and assess data. It allows one to search in large archives, find connections between the sources, scan the documents and transform them into text to allow a search, and allow the formation of data sets, maps, and comparative research. Still, it is inevitable that various new study paths have now been opened, although the application of credible historical techniques is also imperative. In South Asia, where archives are written in various languages and scripts, and some of them are yet not digitized, they are of paramount importance there. Contrary to India where the scope of research is on infrastructure and script-dependent identification, Pakistan research is largely about cataloging and preservation. Learning the locality, entry to archives, and understanding of restriction and bias of digital archives are therefore required in the success of artificial intelligence.

Confirming sources, confirming facts, giving historical background and assessing material in contradiction are some of the things that historians are now faced with. The statistical data can exhibit patterns which do not necessarily correspond to a causal relationship and the passages which are reconstructed may not necessarily be historical events. It is necessary to match the results of the AI analysis with the original material, but it is also necessary to elaborate about the ambiguities and restrictions of the methodology. Collaboration between historians and computer systems in a responsible manner is the future of historiography. Artificial intelligence can potentially broaden the scope of research and make it more productive, and historians can deliver context and ethical judgment and analysis. The elements that combine to generate the final product of historical study that can be trusted are technology development, sound thinking, transparency of methods and accountability of human intellect.

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