

# Artificial Intelligence: Transformative Research Methods and Techniques in the Digital Humanities.

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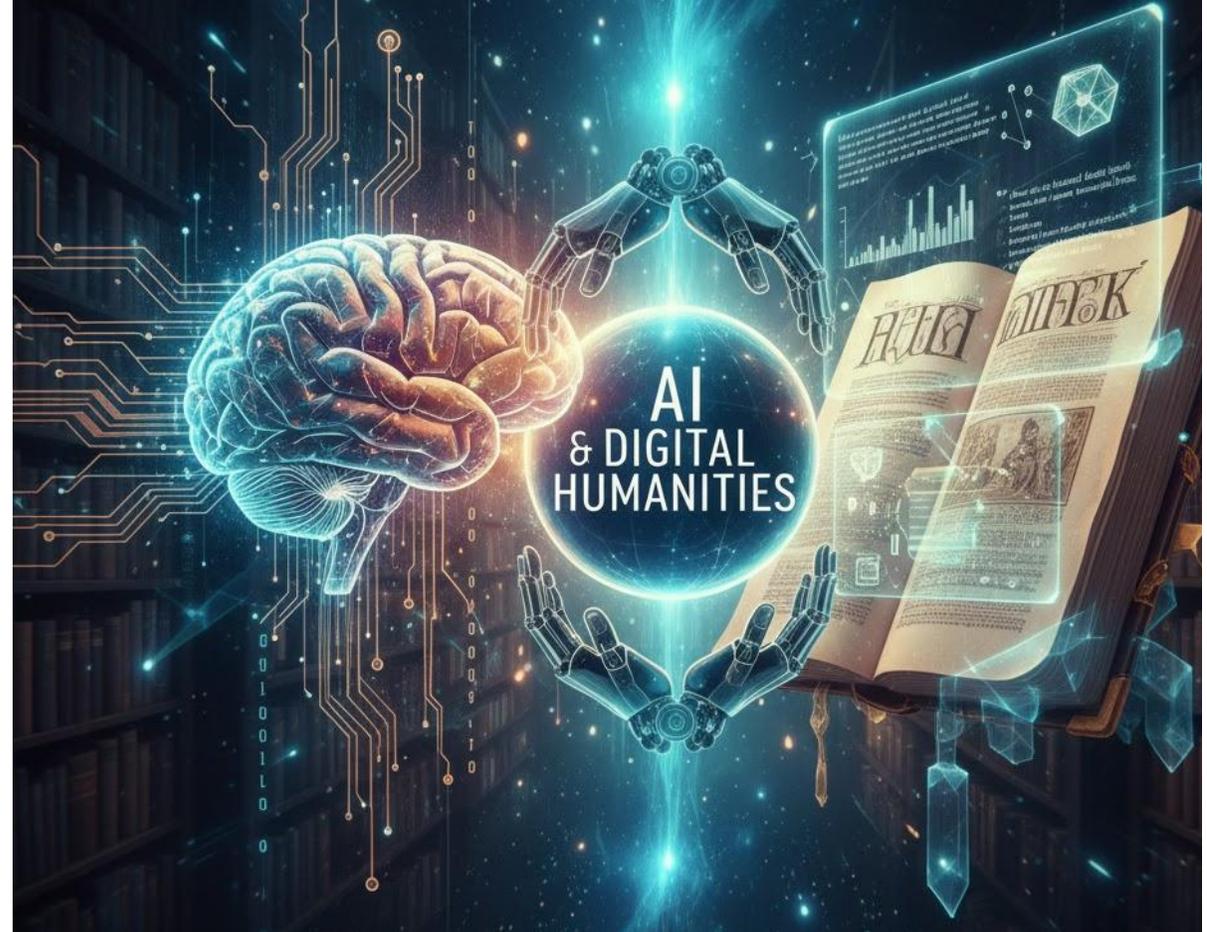


Image Source: Google Gemini  
AI

# Overview

Key to the Abbreviations: **DH**: Digital Humanities, **AI**: Artificial Intelligence

- Characteristics of DH and AI and Brief Chronologies
- Early Initiatives and Early Digital Projects
- Field-Specific Applications – Literature, History of Literary Computing, Computational Art History
- Reconstructing the Human Past – History, Archeology
- Innovations, Techniques, and Tools
- Conclusion
- Addendum – Resources for Further Research and Teaching:
  - Landmark DH Projects
  - Foundational Publications Frequently Cited
  - A List of Essential Research Guides on the DH and AI created by Danielle Mihram.

# The Characteristics of DH

DH is an interdisciplinary field that combines computational technologies with traditional humanistic inquiry (such as history, literature, and art) in research, teaching and publishing by using digital tools for analysis, creation, and interpretation of cultural information.

- It moves beyond print to explore new ways of understanding culture.
- It involves applying methods like developing digital archives, text mining, data mining, data analysis, digital mapping, geospatial mapping, and text encoding in response to humanistic questions alongside the critical study of how these technologies reshape our understanding of culture, heritage, and knowledge production.
- It is a collaborative, transdisciplinary, and computationally engaged community of practice.

# Why AI in the DH?

**DH:** Intersection of computing and humanities research.

**AI's role:** Provides Pattern recognition, automation, and new insights into cultural data.

**Massive data growth:** Digitized archives, digitized manuscripts, films, artworks, social media.

**Need for automation - Examples :** Text mining, image recognition, sentiment analysis.

## **Key Opportunities:**

*Bridging Disciplines:* Fusing humanities' critical thinking with computer science to solve complex cultural questions.

*Innovation:* Creating new tools and methods (e.g., Using artificial neural networks to decipher ancient texts).

# AI and DH: Key Methods and Applications

- *Natural Language Processing (NLP)*: Facilitates text analysis of large textual corpora. Used on historical documents, literature, and letters.  
  
Specific applications include sentiment analysis, topic modeling, named entity recognition (NER), authorship attribution, transcription and translation.
- *Machine Learning (ML) For Pattern Discovery*: Used for classification and finding patterns. Supervised learning (with labeled data) as well as unsupervised learning (on unlabeled data) are applied.
- *Computer Vision / Image Analysis/and Visual Data*: Applied to visual materials like paintings and photographs. This includes object recognition, image restoration, and facial recognition.
- *Generative AI*: Text generation, translation, creative writing.

These methods enable large scale analysis, pattern discovery , and new insights that would be impractical with manual analysis.

## Brief Chronology – Artificial Intelligence

- **1956:** The term “artificial intelligence” was coined in 1956 by John McCarthy, a Dartmouth College professor, *at the Dartmouth Summer Research Project on Artificial Intelligence* (June 18-August 17, 1956).

<<https://home.dartmouth.edu/about/artificial-intelligence-ai-coined-Dartmouth>>

- **Late 1990s and early 2000s:** Beginnings of the extensive integration of AI into the field of DH as computational power increased. This integration grew significantly, becoming a central part of DH by 2020 due to advancements in AI techniques like Natural Language Processing (NLP), machine learning, and image analysis.

# Key Resources for Finding AI Created DH Projects

While there is no single, universally recognized "official" international database which exclusively catalogs AI-created DH projects, several major repositories and initiatives curate, catalog, and review these projects as they increasingly intersect with AI technologies.

## 1. The International Database of Digital Humanities Projects (NINCH):

<<https://www.ninch.org/PROJECTS/data/data.html>>

Aims to contain peer-reviewed information on research and resource-building projects that make significant use of humanities computing methods. Projects that collect, encode, analyze or present source materials and those developing computing tools are considered for inclusion.

## 2. ARLIS/NA Digital Art History Directory (DAHD)

<<https://www.arlisna.org/digital-art-history-directory>> is a registry of digital art history (DAH) projects that provides access, discoverability, and pedagogical uses of DAH projects. The DAHD also addresses concerns with sustainability (both intellectually and technologically) and diversity (projects from both large and small institutions/publications).

## Key Resources for Finding AI Created DH Projects (Cont.)

**3. Humanities for All** <<https://humanitiesforall.org/>> and **National Humanities Alliance** <<https://nhalliance.org/higher-education/humanities-for-all/>> : Showcase over 2,000 publicly engaged humanities projects, many of which involve digital, AI-related tools.

**4, University-Led Research Centers:** Programs like the *AI Humanities Lab* at Washington University in St. Louis, and the *Humanistic AI project* at UChicago document and catalogue their own and partner projects.

### See also:

**Reviews in Digital Humanities** <<https://reviewsindh.pubpub.org/>> : A peer-reviewed, open-access journal that reviews DHprojects. It frequently features, indexes, and analyzes projects that employ AI/Machine Learning for analysis, such as, for example, the "Heritage Connector" project, <<https://www.sciencemuseumgroup.org.uk/projects/heritage-connector>> which uses AI to link museum collections, and generates new opportunities for research projects.

## Brief Chronologies – DH

**1940s:** Start of Roberto Busa's Project, *Index Thomisticus* <<https://www.historyofinformation.com/detail.php?entryid=2321> > (a concordance of 179 texts centering around Thomas Aquinas).

See: *Publication of Roberto Busa's Index Thomisticus: Forty Years of Data Processing in the Humanities* <<https://www.historyofinformation.com/detail.php?id=3077>>

The foundation of DH began with the automation of linguistic indexing. Roberto Busa's mechanical concordances via IBM punch cards of his *Index Thomisticus* proved that humanistic inquiry and computational logic were synergistic.

- Tool: IBM Mainframes
- Scale: Approx. 11 Million Words
- Effect: Automated Retrieval

**1969s and 1970s:** The very early computational methods in DH primarily focused on text analysis. using tools for *concordances*, *lexical statistics*, and *stylometry* as well as early forms of text encoding and markup for creating scholarly editions and the analysis of language evolution through word usage and grammatical patterns.

# Earliest Initiatives: Digital Paleography

The "early" period of digital paleography generally spans from the 1960s through the early 2000s, when individual scholars began pioneering the use of technology in manuscript studies, before the field became more formally defined and widely practiced. It generally fell into several technical approaches:

**1. Image Annotation and Markup:** Scholars developed methods to annotate digital images of manuscripts, often using XML encoding, to record paleographical features and transcriptions.

**2. Quantitative Methods:** Researchers explored using forensic document analysis techniques to classify and identify different scribal hands based on measurable features of the script (e.g., character shape, size, and centroids\*).

\*Centroids are computed, statistical averages representing the "typical" shape, style, or feature set of a letter or character cluster. They act as reliable, mathematical "attractors" or prototypes for handwriting, allowing AI models to identify specific scribes or distinguish between different handwriting styles.

## Earliest Initiatives: Digital Paleography (Cont.)

**3. Database Creation:** Projects focused on building extensive databases of dated and localized scripts to serve as reliable terms of comparison for authenticating and dating unknown manuscripts, such as the Demotic Paleographical Database Project (DPDP) <<http://129.206.5.162/>> .

See as well: “Paleography - Digital Paleography – Early Period – Key Dates and Milestones,” in Research Guide, *AI and the Digital Humanities* by Danielle Mihram (University of Southern California). <<https://libguides.usc.edu/ai-dh>>

# Beyond Concordances - Early Digital Projects (A)

## Codicology - 1960s:

Malachi Beit-Arié (1937-2023)

<<https://www.csmc.uni-hamburg.de/about/blog/2023-10-27-malachi-beitarie>>.

Ludwig Jesselson Professor of Codicology and Palaeography at the Hebrew University of Jerusalem. As early as 1965, while still engaged in research for his doctorate, he founded The Hebrew Palaeography Project and he presided over it ever since. During that period. he built a substantial database of Hebrew manuscripts, leading to a groundbreaking early work of quantitative codicology.

<<https://blog digitized medieval manuscripts.org/codicology/#:~:text=Codicology%20focuses%20on%20the%20physical,e%2D0718%3E.%20>>.

Software used: *SfarData* (custom-built) <[https://sfardata.nli.org.il/#/about\\_En](https://sfardata.nli.org.il/#/about_En)> .

# Beyond Concordances - Early Digital Projects (B)

- **Script Analysis 1970s-1980s:**

Scholars like Jean Mallon <[https://grokikipedia.com/page/jean\\_mallon](https://grokikipedia.com/page/jean_mallon)>

and Leon Gilissen\* were applying systematic and statistical measures to [script analysis](#), methods that would later be adapted for computer use, though widespread access to computers was not yet common.

See: "Types of Script", Harvard's Geoffrey Chaucer Website  
<<https://chaucer.fas.harvard.edu/types-script#:~:text=Medieval>>

See also on the Chaucer website: *Resources for Further Study*  
< <https://chaucer.fas.harvard.edu/resources-further-study>>

\*Gilissen, L., & Masai, F. (1977). *Prolégomènes à la codicologie : recherches sur la construction des cahiers et la mise en page des manuscrits médiévaux*. **Story-Scientia**.

Léon Gilissen (1924–2009) was a prominent Belgian scholar and expert in codicology and palaeography. He is widely recognized for his technical analysis of how medieval books were constructed and written.

See: Gilissen, L., & Masai, F. (1977). *Prolégomènes à la codicologie : recherches sur la construction des cahiers et la mise en page des manuscrits médiévaux*. **Story-Scientia**.

For details see Section "Paleography" in Research Guide *AI and the Digital Humanities* (By Danielle Mihram) < <https://libguides.usc.edu/ai-dh>> .

## Early Websites and Software Experiments

- **Early 2000s:** This period saw a rise in institutionally funded projects that began to take better advantage of digital possibilities. The publication of Ciula's article in 2005 on "digital" or "computational" paleography helped define the emerging field.
  - See: Ciula, A., 2005. "Digital palaeography: using the digital representation of medieval script to support palaeographic analysis," *Digital Medievalist*, 1.  
DOI: <<http://doi.org/10.16995/dm.4>>
- The movement transitioned into a more established and formalized discipline after the mid-2000s, with large-scale collaborative projects and dedicated international symposia, marking the end of its "early" or "pioneering" phase.

See the Addendum Section (below) for a listing of Landmark DH Projects.

# AI and DH: Field-Specific Applications

For detailed information see “AI and DH – Field-Specific Applications”, in Research Guide *AI and the Digital Humanities* by Danielle Mihram  
<<https://libguides.usc.edu/ai-dh>>

# Field-Specific Applications

## History of Literary Computing

**2010s:** Distant Reading (a term coined by Franco Moretti)

<<https://profiles.stanford.edu/franco-Moretti>>: A DH method that analyzes vast collections of texts computationally to find large-scale patterns, trends, and structures, instead of focusing on individual works like traditional close reading. It treats books as data, using techniques like corpus linguistics and machine learning to quantify elements like word frequency, plot structures, and genre evolution across thousands of texts, revealing literary insights invisible at the close-reading level.

**2026:** Archival Large Language Models (LLMs) - Predictive semantic models detecting hidden subtexts.

For instances when Distance Reading is not encouraged see: “AI Use in Our Archival Processes,” Rockefeller Archive Center Documentation, for their decision not to use this technique < <https://docs.rockarch.org/ai-archival-processes/> >.

# Field-Specific Applications

## History: Reconstructing the Human Past (A)

### The Venice Time Machine

The Venice Time Machine

<<https://www.epfl.ch/research/domains/venice-time-machine/inbrief/>> is a massive DH project by EPFL (École Polytechnique Fédérale de Lausanne) and Ca' Foscari University of Venice. It is an international scientific program focused on creating a vast digital replica and historical database of Venice. It digitizes, transcribes (using handwritten text recognition, and indexes millions of documents, including tax records, birth certificates, maps, and literary works, from the State Archives and other institutions. It uses advanced computational methods to analyze this data, revealing patterns in commerce, migration, and social structure and it aims to create a "Big Data of the Past" to digitally reconstruct the city's evolution, social networks, and trade, making its rich history searchable and accessible for researchers and the public.

Image source:

<https://www.timemachine.eu/ltms/venice/>



# Field-Specific Applications

## History: Reconstructing the Human Past (B)

### Historical Chatbots

*Eliza* is both a historic AI program and a modern framework; the original *ELIZA* (1960s; creator: Joseph Weizenbaum at MIT) was one of the first chatbots, simulating a therapist using simple pattern matching to create the *illusion* of understanding. Its key concept: It used pattern matching and substitution; it didn't *understand* language but mimicked human conversation,

Modern ElizaAI (*ElizaOS*) < <https://elizaos.ai/> > is an open-source framework for developers to build autonomous AI agents that connect Large Language Models (LLMs) < <https://ask.library.arizona.edu/faq/407985> > with tools, APIs (Application Programming Interface), < <https://www.ibm.com/think/topics/api> >,

and chat platforms (like *Discord*, *Telegram*) to create autonomous agents. for complex workflows It allows for collaboration between multiple agents, integration with blockchains (Web3), and decentralized environments, enabling complex, automated tasks across digital platforms.

**2025-2026:** Fine-tuned LLMs allow scholars to "explore" 4th-century documents to explore early concepts of justice

# Field-Specific Applications

## History: Reconstructing the Human Past (B) Cont.

**2020-2026:** Fine-tuned Large Language Models (LLMs) combined with 4th-century documents\* provide a powerful methodology to explore early concepts of justice, which were transitioning from classical Roman legalism to Christian, moral-based conceptions. Key documents from this period include the *Edict of Milan* (313), the writings of Augustine of Hippo, and Basil of Caesarea, which showcase a shift toward incorporating equity, charity, and "natural law" into the established Roman legal framework.

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\*The 4th century was a pivotal era when Roman law—focused on status, property, and procedural equity (*aequitas*)—began to intersect with Christian, theological definitions of justice.

For information on LLMs as research tools while critically assessing their limitations, see: Hutchinson, D. (2024). "Mapping the Latent Past: Assessing Large Language Models as Digital Tools through Source Criticism." *Journal of Digital History*, 3(1).  
<<https://doi.org/10.1515/JDH-2023-0018?locatt=label:JDHFULL>>

# Innovations, Techniques, and Tools (2025-2026)

## Working With High-Quality Small Data

DH scholarship often lacks the massive datasets required by LLMs. Fortunately, Small Data Annotation techniques now allow for high-precision fine-tuning using limited, expert-curated archives. Scholars can now build robust models for 17th-century legal Latin or specific regional dialects with only a few thousand verified samples.

How it works:

- **1. General Model Foundation:** Start with powerful, general-purpose LLMs or HTR models already trained on massive collections of historical texts, potentially covering broader time periods or multiple languages (like Latin scripts).
- **2. Transfer Learning:** These large models already understand grammar, syntax, and script variations, allowing them to "transfer" that knowledge to new, specific tasks.
- **3. Fine-Tuning:** Researchers provide a smaller, curated dataset (a few thousand verified samples) of their specific 17th-century legal Latin or regional dialect.

# Innovations, Techniques, and Tools (2025-2026)

## Working With High-Quality Small Data (Cont.)

**4. Specialization:** The model is then fine-tuned (retrained) on this specialized data, adapting its general understanding to the unique vocabulary, style, and handwriting of the target niche.

**5. Improved Accuracy:** This process quickly yields highly accurate models for specific needs (e.g., transcribing court records, identifying legal terms) that would be impossible to build from scratch with such limited data.

### Tools

Transkribus <<https://www.transkribus.org/>> : “Transkribus enables you to automatically recognise text easily, edit seamlessly, collaborate effortlessly, and even train your custom AI for digitizing and interpreting historical documents of any form.”

# Field-Specific Applications

## Computational Art History (A)

### Standardization

The *Getty Vocabulary Program* (GVP) (1980s) turned siloed catalogs into a global digital commons. It creates and maintains authoritative, structured, and multilingual vocabularies (like AAT, ULAN, TGN, CONA, IA), for cataloging and searching art, architecture, and cultural heritage, serving as essential tools for museums, libraries, and researchers by standardizing terms for people, places, objects, and concepts, and enabling linked data for better discovery.

These resources provide consistent data, improve searchability, and help connect related information across different collections globally, while adhering to international standards.

# Field-Specific Applications

## Computational Art History (B)

### Visual Patterns

*Replica Project* (2010s) <<https://www.epfl.ch/labs/dhlab/projects/replica/>>  
used CNNs (Convolutional Neural Networks) to find compositional "rhymes" across Venetian art.

In DH, Convolutional Neural Networks (CNNs) are AI tools that analyze large collections of visual data (images, historical photos, art, manuscripts) to find patterns, classify content (photos vs. illustrations), cluster similar items (e.g., advertisements), recognize objects/styles, and help study historical visual culture, enabling new ways to explore archives beyond just text.

They act like automated art historians or archivists, processing visual information to uncover trends and features that would be impossible to find manually

# Field-Specific Applications

## Computational Art History (C)

### Restorative AI

Multimodal models

<<https://medium.com/@larrydelaneyjr/the-rise-of-multimodal-ai-how-machines-are-learning-to-see-hear-and-understand-like-humans-7404b6fd7678>>

began integrating "restorative" functionalities around **2021–2022**, with significant advancements continuing into 2024.

Multimodal models in DH research use AI to analyze and connect diverse data types (text, images, audio, video) for deeper cultural understanding, moving beyond single-mode analysis to explore complex, real-world artifacts like historical documents with illustrations or video archives, enabling large-scale pattern discovery and unified interpretation of multimodal meaning previously difficult to manage.

Key examples include using large language models (LLMs) like GPT-4o or CLIP <<https://openai.com/index/clip/>> for tasks like captioning images, cross-referencing text with visual elements, or building databases that integrate 3D scans, images, and multilingual texts for cultural heritage.

# Computational Art History (D)

## Multispectral Synthesis

Multispectral Synthesis is a non-invasive, advanced photographic technique that captures images of cultural heritage objects—such as manuscripts, palimpsests, or archaeological artifacts—using both visible and invisible light (ultraviolet and infrared). This research involves taking multiple images at different wavelengths and then using synthesis and processing algorithms to reveal hidden texts, faded ink, or underlying materials that are invisible to the naked eye.



# Computational Art History (D)

## Multispectral Synthesis (Cont.)

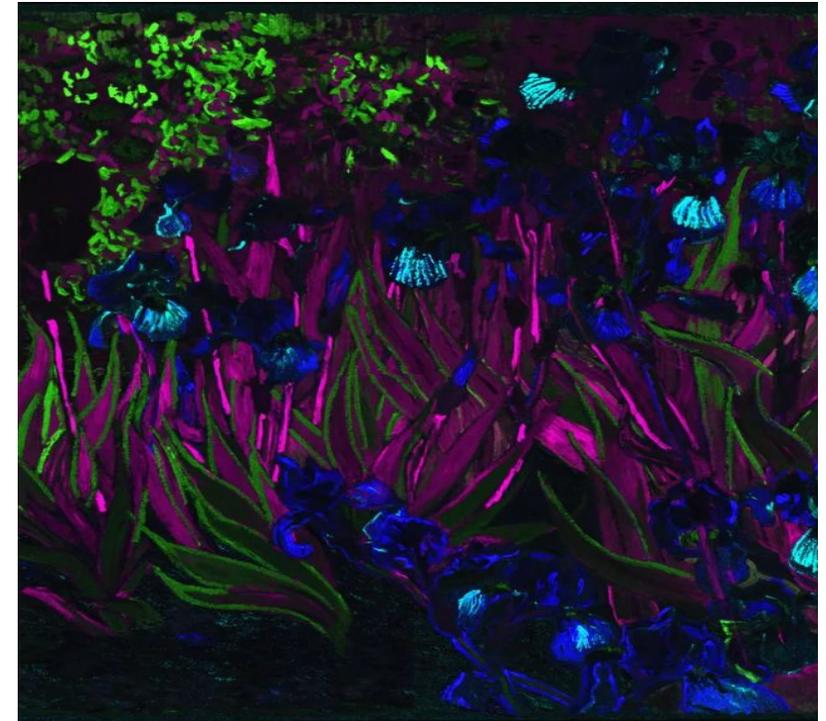
### Restorative AI : Case Study

Van Gogh's "Iris". AI reconstruction revealed that the original colors were a vibrant purple, not the blue we see today due to light degradation.

AI models can now "rewind" chemical degradation in artworks. By analyzing the current state of pigments like those in Van Gogh's "Iris", AI uses "predictive chemical analysis" to reveal original vibrant purples before they faded to blue over a century.

This allows curators to present virtual exhibitions of works exactly as they appeared to the artist's eye.

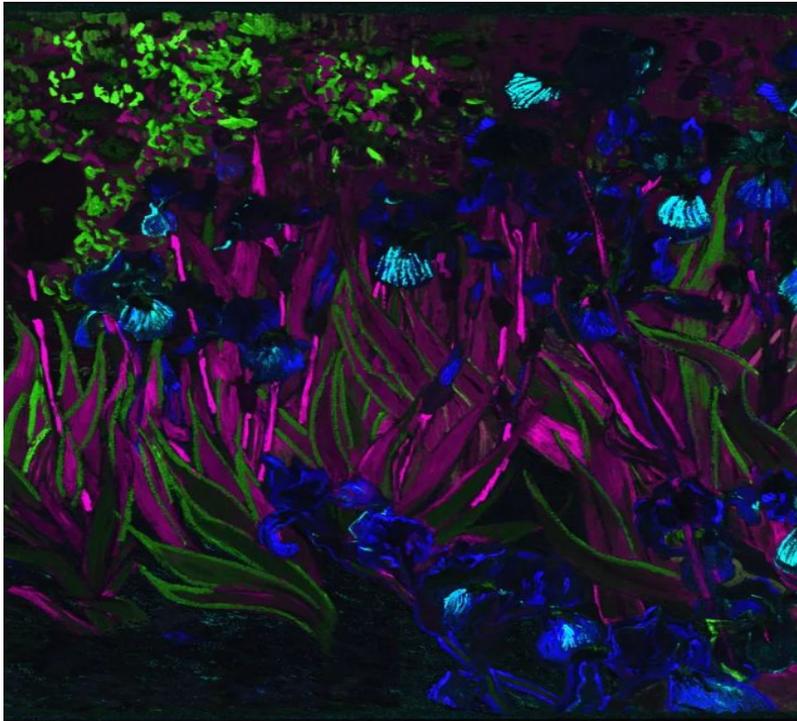
- These exhibitions often employ "virtual iconographic restoration" to simulate the original colors and remove alterations



Source: [www.smithsonianmag.com](http://www.smithsonianmag.com)  
<<https://www.smithsonianmag.com/smart-news/van-goghs-famous-blue-irises-were-originally-purple-180985499/>>

# Van Gogh's "Iris"

Multispectrum Synthesis



Getty Museum Photo



# Archeology: New Horizons in Archaeology

In 2003-2004 Sarah Parcak <<https://www.gf.org/fellows/sarah-parcak/>>, University of Alabama at Birmingham, pioneered the use of AI and satellite Synthetic Aperture Radar (SAR) to identify looted sites and buried pyramids from orbit.

Synthetic Aperture Radar (SAR) is an active, space-based remote sensing technology that creates high-resolution, 2D or 3D images of the Earth's surface by transmitting microwave pulses and recording the reflected signals (backscatter). Unlike optical imagery, SAR can operate day or night and penetrate cloud cover, foliage, and, most crucially for archaeology, dry soil and sand to reveal buried structures.

AI, particularly machine learning (ML) and deep learning, is used to interpret the complex, "speckled" nature of SAR data, turning it into actionable intelligence. AI also accelerates research by enhancing excavations, analyzing artifacts, and preserving sites, though it raises ethical concerns. When used wisely, AI reveals historical insights with remarkable accuracy.

**See:** But, Tatiana (August 15, 2024) "The Latest AI Innovations in Archaeology," Historical Blog <<https://www.historica.org/blog/the-latest-ai-innovations-in-archaeology>>

# Innovations, Techniques, and Tools (2025-2026)

## Specialized Scholarly Pipelines

**WOKIE** (Well-translated Options for Knowledge Management in International Environments).

An open-source pipeline for aligning specialized thesauri across 15+ languages without high-end hardware.

It automatically translates SKOS (Simple Knowledge Organization System) thesauri into multiple languages. It combines online translation services with LLMs to pick the best translation for each term.

<<https://www.w3.org/2004/02/skos/>>

### **Kraken & ByT5**

The new standard for Handwritten Text Recognition (HTR), handling non-standardized historical scripts.

Kraken, an open-source OCR engine, with ByT5 (a byte-level transformer model) allow you to create a robust, end-to-end pipeline for the transcription and post-correction of early printed books and historical documents.

# Innovations, Techniques, and Tools (2025-2026)

## Unlocking Damaged Manuscripts

Handwritten Text Recognition (HTR) has undergone a revolution. Current ByT5 (Byte-level Text-to-Text Transfer Transformer) models ignore "bleeding" and deteriorated paper to isolate ink patterns.

- **Deteriorated Scripts:** Recovers text from water-damaged or faded archives.
- **Non-standardized Syntax:** Learns historical spelling variants automatically.
- **Multilingual Support:** Robust performance across Latin, Early Modern English, and more.

### Applications

- Tasks requiring high robustness to messy text, like spell correction or noisy OCR.
- Multilingual tasks where traditional tokenizers\* struggle with script differences.
- As a foundation for various text-to-text tasks (translation, summarization, Q&A).

\* Tokenizers are essential tools in Natural Language Processing (NLP) that break down raw text into smaller, manageable units called **tokens** (words, subwords, or characters) to prepare them for AI models, converting these text pieces into numerical IDs that neural networks can process, enabling machines to understand and work with human language efficiently.

# Archival Efficiency

## Applying Qualitative Research

Integration of AI into tools like NVivo Plus and ATLAS.ti allows researchers to theme-map thousands of pages of interview transcripts and archival notes in hours rather than months. This efficiency enables scholars to spend more time on *interpretive analysis* and less on mechanical data organization.

**1. NVivo** is a qualitative data analysis (QDA) software that helps researchers manage, analyze, and find insights in rich, unstructured data like interviews, videos, social media, and survey responses, organizing it all in one place for deeper understanding through coding, querying, and visualization. It is used across social sciences, healthcare, and business to uncover patterns and themes in text, audio, and visual information.

## Archival Efficiency (Cont.)

2. **ATLAS.ti** is a qualitative data analysis (QDA) software that helps researchers uncover insights from complex, unstructured data like texts, interviews, videos, and social media by providing tools for coding, tagging, visualizing, and interpreting information. It is used in academia, market research, and applied fields to turn qualitative data into meaningful findings, supporting formats from documents to audio/video and offering features like network diagrams and automated theme identification.

For additional information, see:

Vindrola-Padros, C., & Johnson, G. A. (2020). Rapid Techniques in Qualitative Research: A Critical Review of the Literature. *Qualitative health research*, 30(10), 1596–1604. <https://doi.org/10.1177/1049732320921835>

# The Paradigm Shift: From the 1940s to 2025+

Era	Key Paradigm	Primary Technique
1940s-1980s	Humanities Computing	Manual input, Punch Cards, Simple Counting
1990s-2010s	Digital Humanities	Text mining, Stylometry, Topic Modeling
2012-2020s	Machine Learning/AI	Deep Learning, HTR, Neural Networks
2025+	Generative AI	LLMs, Multimodal Models, Synthetic Data

# Conclusion

The integration of Artificial Intelligence into the Digital Humanities represents more than just a technological upgrade - it is a fundamental shift in the epistemological landscape of this interdisciplinary field.

The transformational power of AI tools and techniques lies in their ability to bridge the gap between computational scale and interpretive depth. AI does not replace the nuanced judgment of the archeologist, the historian, or the philosopher, rather, it acts as a high-powered lens, surfacing patterns and linguistic connections that were previously invisible to the human eye. This "multimodal turn" allows scholars to analyze data not as isolated fragments, but as interconnected systems of cultural development and meaning.

This transformation, whose evolution has significantly accelerated over the past five years, brings with it a critical responsibility. AI's ability to generate convincing restorations or identify chronological developments—needs to be met with rigorous humanistic review and critique. Our ability to maintain a clear "human-in-the-loop" methodology, as our tools become more autonomous, will ensure that our ethical frameworks become more robust over time.

# Questions?

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# ADDENDUM

## Resources for Further Research and Teaching

A. **Landmark Digital Humanities Projects** - Initiatives that demonstrate how digital tools transform research and public access.

See also, in the Research Guide by Danielle Mihram, *Creating and Developing a Digital Humanities Project - From Inception to Implementation and Dissemination*, the Section: “Examples of Large-Scale Notable DH Projects.”

B. **Foundational Publications Frequently Cited.**

C. **A List of Essential Research Guides on the Digital Humanities and AI** created by Danielle Mihram.

## Digital Humanities Projects (A)

- **The Valley of the Shadow (University of Virginia)** <<https://valley.newamericanhistory.org/>>  
One of the earliest and most influential digital history projects. It provides a hyper-detailed archive of two communities—one Northern, one Southern—during the American Civil War, allowing users to move through "layers" of social, political, and military data.  
**See Ayers, E. L. (2011).** "The Valley of the Shadow: Two Communities in the American Civil War." In *The American Literary Scholar in the Digital Age*. University of Michigan Press.
- **Slave Voyages (Rice University / Harvard)** <<https://www.slavevoyages.org/>> : A massive, multi-institutional database documenting over 36,000 slaving voyages. It utilizes data visualization and 3D ship reconstructions to make the scale and horror of the trans-Atlantic slave trade legible to both scholars and the public.  
**See: Eltis, D., & Richardson, D. (2010).** *Atlas of the Transatlantic Slave Trade*. Yale University Press. (Contextualizes the Slave Voyages data).

## Digital Humanities Projects (B)

- **Mapping the Republic of Letters (Stanford University)** <<http://republicofletters.stanford.edu/>> : An innovative visualization project that maps the vast correspondence networks of Enlightenment-era intellectuals. It uses network graphs to reveal the geographic "hot spots" of intellectual exchange and the hidden connections between historical figures.  
**See: Edelstein, D., Findlen, P., Ceserani, G., Winterer, C., & Coleman, N. D. (2017).** "Historical Research in a Digital Age: Reflections from the Mapping the Republic of Letters Project." *The American Historical Review*, 122(2).
- **The Archaeology of Reading in Early Modern Europe (Johns Hopkins / Princeton)** <<https://archaeologyofreading.org/>>: This project uses high-resolution digitization and XML encoding <<https://archaeologyofreading.org/viewer/#aor>>, to enable the systematic exploration of the historical reading practices of Renaissance scholars nearly 450 years ago. This is possible through AOR's corpus of thirty-six fully digitized and searchable versions of early printed books <<https://archaeologyofreading.org/viewer/#aor>> filled with tens of thousands of "marginalia" (handwritten notes), left by two of the most dedicated readers of the early modern period: John Dee <<https://archaeologyofreading.org/john-dee-a-biographical-note/>> and Gabriel Harvey <<https://archaeologyofreading.org/biography/>>

## Digital Humanities Projects (C)

- **Old Weather (Zooniverse):** A pioneering "citizen science" which recruits volunteers to transcribe handwritten 19th and early 20th-century ship logs, recovering millions of crucial historical weather, ocean, and sea-ice observations for climate research, led by groups like NOAA (National Oceanic and Atmospheric Administration) and the University of Washington). Participants help digitize logs from various maritime ventures, including whaling, to compare with modern conditions and improve climate models, making historical data freely available. This data helps climate scientists reconstruct historical weather patterns while providing historians with unique insights into naval life and Arctic exploration.  
**See: Terras, M. (2016).** "Crowdsourcing in the Digital Humanities." In *A New Companion to Digital Humanities*. Wiley Blackwell. (Discusses projects like Old Weather).
- **The Dead Sea Scrolls Digital Library**  
<<https://www.deadseascrolls.org.il/about-the-project/a-note-from-the-iaa-director>> : a free online digitized virtual library of the Dead Sea Scrolls (the first scrolls were unearthed in the Caves of Qumran in the Judean Desert). Hundreds of manuscripts made up of thousands of fragments – discovered from 1947 and until the early 1960's in the Judean Desert along the western shore of the Dead Sea – are now available to the public online <<https://www.deadseascrolls.org.il/learn-about-the-scrolls/introduction>>. The high-resolution images are extremely detailed and can be accessed through various search options on the site.

# Foundational Monographs and Readers

**Schreibman, S., Siemens, R., & Unsworth, J. (Eds.) (2004).** *A Companion to Digital Humanities*. Oxford: Blackwell.

*Significance:* This volume is widely credited with establishing the term "Digital Humanities" as a replacement for "Humanities Computing."

**Gold, M. K. (Ed.) (2012).** *Debates in the Digital Humanities*. Minneapolis: University of Minnesota Press.

*Significance:* Defines the field through its internal tensions, covering topics from "Big Tent DH" to the role of coding.

**Burdick, A., Drucker, J., Lunenfeld, P., Presner, T., & Schnapp, J. (2012).** *Digital Humanities*. MIT Press.

*Significance:* A collaborative manifesto that outlines the "second wave" of DH, focusing on generative, interpretive, and experiential modes.

**Terras, M., Nyhan, J., & Vanhoutte, E. (Eds.) (2013).** *Defining Digital Humanities: A Reader*. Ashgate Publishing.

*Significance:* A curated collection of the most influential essays and blog posts that have attempted to define the field over several decades.

**Jones, S. E. (2014).** *The Emergence of the Digital Humanities*. Routledge.

*Significance:* Provides a cultural history of the shift from the desktop era to the social and mobile era of DH.

## Pivotal Articles and Manifestos

**Kirschenbaum, M. G. (2010).** "What is Digital Humanities and What's it Doing in English Departments?" *ADE Bulletin*, 150.

*Significance:* Defines DH as a "social undertaking" and a "tactical term" for institutional resource building.

**Fitzpatrick, K. (2011).** "The Humanities, Done Digitally." *The Chronicle of Higher Education*.

*Significance:* Addresses the tension between using digital tools for traditional ends vs. changing the nature of humanistic inquiry itself.

**Svensson, P. (2009).** "Humanities Computing as Digital Humanities." *Digital Humanities Quarterly*, 3(3).

*Significance:* Explores the institutional and conceptual history of the field's renaming.

**Schnapp, J., & Presner, T. (2009).** *The Digital Humanities Manifesto 2.0*.

*Significance:* An early, influential call for a more open, collaborative, and multimedia-driven approach to humanities scholarship.

# Recent Critical Perspectives

**Drucker, J. (2021).** *The Digital Humanities Coursebook: An Introduction to Methods and Terminology.* Routledge.

*Significance:* Provides a practical, materials-focused definition (Materials + Processing + Presentation).

**Dobson, J. E. (2019).** *Critical Digital Humanities: The Search for a Methodology.* University of Illinois Press.

*Significance:* Argues for a "constant rereading" of digital methods to avoid uncritical deference to computational power.

# Danielle Mihram Research Guides on AI and The Digital Humanities

*Digital Humanities - Research, Teaching, and Learning* <<https://libguides.usc.edu/DH>>

The goal of this guide is to provide a multi-faceted overview of the polymathic and inter-disciplinary aspects of the Digital Humanities (DH)

*Creating and Developing a Digital Humanities Project - From Inception to Implementation and Dissemination* <<https://libguides.usc.edu/Dhproject>>

An Essential Step-by-Step Approach: From Planning to Completing and Disseminating Your Digital Humanities Project.

*AI and the Digital Humanities.* <<https://libguides.usc.edu/ai-dh>>

This Guide focuses on the digital transformation and innovation in Digital Humanities research and scholarship with Artificial Intelligence as a catalyst for scalable advancements.

*AI and Teaching and Learning* <<https://libguides.usc.edu/ai-teach>>

This guide is a detailed overview of AI literacy that addresses technical, ethical, critical, and societal dimensions of AI in education in our current AI-embedded world.

It focuses on Artificial Intelligence (AI) literacy research and scholarship in the broad field of teaching and learning.