

ORIGINAL RESEARCH ARTICLE

Digital resurrection of historical figures: A case study on Mary Sibley through customized ChatGPT

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ABSTRACT

This study investigates the emerging realm of digital resurrection, focusing on Mary Sibley (1800–1878), the esteemed founder of Lindenwood University. The core objective was to demonstrate the capability of advanced artificial intelligence, specifically a customized version of ChatGPT, in revitalizing historical figures for educational and engagement purposes. By integrating comprehensive diaries from Sibley with Claude 2.0, the research utilized a substantial autobiographical dataset to develop a GPT beta version that replicates her distinct voice and tone. The incorporation of her official portrait and diaries into the GPT Builder was pivotal, creating an interactive platform that accurately reflects her perspectives on critical issues such as gender roles, women's education, and religious beliefs. This approach signifies a considerable advancement from previous methods of historical engagement, offering a more dynamic and immersive learning experience. The collaboration with the university archivist was instrumental in refining the AI to align closely with the known worldview of the subject, showcasing the significance of expert input in achieving authenticity in digital recreations. The successful implementation of this project illuminates the potential for future research in digital resurrections, especially for historical figures with extensive personal writings. It underscores the necessity of interdisciplinary collaboration, involving both historical expertise and technological innovation, to ensure the accuracy and ethical representation of such figures. The results from this study contribute significantly to the field of digital humanities, proposing a novel approach to historical education and interactive learning.

Keywords: artificial intelligence; historical simulation; Mary Sibley; language model customization; digital resurrection

1. Introduction

The integration of technology in art and culture has historically served to breathe life into the past, particularly through virtual recreations that facilitate dynamic interactions with historical artifacts and structures^[1]. In recent developments, technological advancements, especially in the field of artificial intelligence, have enabled the reanimation of historical figures, not through physical avatars or virtual reality

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but through sophisticated language models. While past attempts at bringing historical personas to life have largely centered around animated objects and limited interactions, such as the animatronics displayed in the *Great Moments with Mr. Lincoln* exhibition^[2], the current focus has shifted towards creating more interactive and engaging experiences. The advent of generative artificial intelligence (GAI) and large language models (LLMs) has opened new frontiers in this domain, allowing for the creation of digital personas that can engage in meaningful conversations and exhibit a depth of knowledge and personality traits true to their historical counterparts. These developments have been leveraged in the digital humanities to revive historical figures for interaction. *Debates in the Digital Humanities 2023*, edited by Gold and Klein^[3] presents a state-of-the-field vision of the digital humanities, addressing the use of AI in historical and social contexts. One example is Hello History, which uses AI technology to bring historical figures to life and enable conversations that feel authentic^[4].

Building on these advances in digital historical recreations is the Mary Sibley Project (<https://chat.openai.com/g/g-RAw1PByUX-mary-sibley-of-lindenwood>). Leveraging the capabilities of advanced language models, this study focuses on recreating the persona of Mary Sibley (1800–1878), the founder of Lindenwood University (founded in 1832), through AI-driven interactions. Unlike previous endeavors in digital resurrection, which have explored the use of AI and robotics to simulate the presence of deceased individuals^[5,6], this project uniquely emphasizes the use of language models as a primary tool. By harnessing the vast repository of Sibley’s diaries and writings, the project aims to develop a customized version of ChatGPT that can not only converse with users but also reflect the historical figure’s known worldview, including her perspectives on gender roles, women’s education, and religious beliefs.

This study concentrates on leveraging LLMs to meticulously recreate historical dialogues, setting aside the broader scope of extended reality (XR), virtual reality (VR), and immersive realities. This focused approach aims to ensure the historical accuracy of conversations, addressing one of the most challenging aspects of digital recreations. The Mary Sibley Project, therefore, not only seeks to accurately represent historical figures but also to navigate the ethical and methodological challenges that arise in such digital resurrections, sidestepping biases and limitations often encountered in visually based technologies. Nonetheless, concerns remain about the fidelity of such AI-mediated interactions. AI chatbots, while advanced, might still produce responses that deviate from historical accuracy. The deployment of generative AI in recreating historical dialogues necessitates a rigorous evaluation of textual authority and a deeper understanding of historical epistemology to maintain historical integrity. These considerations are critical in ensuring that the revived figures maintain their factual and contextual authenticity.

The subsequent sections of this study will delve into the specific methodologies employed in this innovative use of LLMs, the collaborative efforts to synchronize AI outputs with verified historical information, and the broader implications of digital recreations for historical education and cultural heritage engagement. This investigation is aimed at elucidating the transformative potential of language models to provide novel insights and foster connections with historical figures, thereby expanding and enriching contemporary understanding of history. Furthermore, it will discuss the limitations inherent in the current technology, the ongoing need for expert oversight in the development and application of such models, and the importance of continued research to refine and enhance the accuracy and ethical representation of historical figures in digital formats.

2. Literature review

The advancement of technology has paved the way for a novel era where interacting with the deceased is no longer a futuristic fantasy. In the realm of popular culture, digital necromancy has gained traction,

employing various methods to resurrect historical figures in a manner that is both fascinating and uncanny. A quintessential example of this phenomenon was the holographic appearance of Tupac Shakur at the Coachella Valley Music and Arts Festival in 2012, which utilized advanced computer-generated imagery and projection technology to create a strikingly realistic hologram of the late rapper, eliciting a surreal response from the audience^[7]. Similarly, the film industry has embraced this concept, notably in *Rogue One: A Star Wars Story*^[8], where CGI technology was used to posthumously recreate the character Grand Moff Tarkin, originally played by Peter Cushing who passed away in 1994^[8]. These instances blur the boundaries between reality and fiction, mesmerizing and provoking contemplation among viewers.

These developments in digital necromancy are now deeply embedded in popular culture, raising critical ethical questions and opening possibilities for future engagements with historical figures through technological means. The ongoing advancements in technology increasingly make the concept of interacting with historical figures a realistic possibility, fueling both excitement and ethical debates about the repercussions of such endeavors. The idea of conversing with iconic historical personalities or encountering figures from bygone eras is gradually shifting from the realm of science fiction to reality.

The process of creating realistic digital clones of historical figures necessitates the integration of multiple technologies to achieve a comprehensive and immersive experience. This involves not only the accurate recreation of their appearance and attire but also the facilitation of interactive dialogues and physical interactions. A notable example is the work of YouTuber Denis Shiryayev, who employs generative tools and neural networks to animate faces from historical paintings. Shiryayev's innovative creations include animated versions of figures from renowned artworks such as Leonardo da Vinci's *Mona Lisa*, Botticelli's model for *The Birth of Venus*, Vermeer's *Girl with a Pearl Earring*, and subjects from Rembrandt's *The Night Watch*. While these animated faces are approximations rather than exact historical replicas, they offer a new way to connect with historical art, allowing audiences to interact with these masterpieces in a dynamic and imaginative fashion.

However, even before the advent of GAI, research explored the use of generative AI to interact with historical figures in various ways. Khandelwal et al.^[9] developed a generative hypermedia system that allows users to manipulate history by browsing, collecting, and organizing information samples from web pages. Latif et al.^[10] created a visualization system, VisKonnnect, that visually connects historical figures through event knowledge graphs, with a GPT-3 language model generating short textual answers to user queries. Haller and Rebedea^[11] proposed an approach to building a chat-bot that simulates an historical figure's character and personality based on texts about their life. Duguleană et al.^[12] developed a virtual assistant for natural interactions in museums, which uses AI to understand and respond to user queries in spoken language. These studies collectively demonstrate the potential of generative AI in enhancing historical interactions and experiences.

Since these early forays in digital humanities, many advances have been made. The fusion of AI with historical exploration and personal engagement is exemplified in innovative applications like MyHeritage's AI Time Machine. As a genealogical platform, MyHeritage introduces a fascinating feature using Stable Diffusion text-to-image AI. This tool allows users to experience different historical periods by uploading 10 to 25 of their photographs in various settings and poses. The AI then transforms these personal images into hyper-realistic depictions of users as characters in different historical themes, enabling a deep personal connection with the past. Users can interact with these AI-generated images, sharing them on social media or using them as profile pictures, thus bridging their contemporary existence with historical contexts. The popularity of MyHeritage's suite of photo technologies, including Deep Nostalgia, Photo Repair, and

DeepStory, with over 200 million uses since inception, underscores the widespread appeal of AI in engaging with history^[13].

Beyond photographic transformations, the application of generative tools in historical recreation encompasses more immersive experiences. The Virtual Angkor project by Monash University exemplifies this, utilizing VR and 360-degree videos to transport visitors to the 13th-century city. This project combines 3D models and animated populations to recreate Angkor's historical environment, offering an immersive and accurate portrayal of its cultural and social dynamics. The integration of archaeological and textual evidence in this experience provides comprehensive insights into various aspects of the civilization, serving as a model for educational experiences that connect modern audiences with ancient worlds^[14].

Witness to Revolution^[15], a VR game developed by the University of Wisconsin-Stout and Carleton College, is another example of immersive historical worldbuilding. This game situates players in Colonial Boston during the 1770 Boston Massacre, challenging them to investigate the event and discern truth from misinformation. The game incorporates interactive elements like Paul Revere's *The Bloody Massacre* print, conversations with historical characters, and flashbacks, enabling players to develop their interpretations of the events.

In 2023, scholars from the USC Dornsife College are employing XR tools to enhance public access to historical sites and artifacts. The Chinatown AR Project, a collaboration between USC Dornsife and the School of Cinematic Arts, is creating an app to virtually recreate early 20th-century Chinatown for visitors to Union Station. Similarly, a VR project led by art history professor Lisa Pon at USC aims to recreate the Vatican's Stanza della Segnatura as it appeared in Pope Julius II's time, offering an immersive experience of the art, texts, and architecture of the era. These projects demonstrate the transformative potential of AI and XR in making history accessible and engaging for contemporary audiences.

While earlier iterations of digital recreations often positioned the viewer as a passive observer, recent advancements in generative AI have paved the way for more interactive experiences with historical figures. These developments bridge the past and present in a dynamic and engaging manner. A prime illustration of this is the Historical Figures Chat app, which leverages the power of LLM and neural networks, trained on extensive historical texts, to simulate conversations with over 20,000 historical personalities^[16]. Similarly, the Hello History-AI Chat app provides users with the ability to choose a historical figure and engage in a conversation, offering a unique and personalized interaction.

These applications enable users to not only observe but actively participate in dialogues with historical figures, thereby making history more tangible and relatable. Users can explore a wide range of personalities, delving into the lives and impacts of both renowned and lesser-known historical figures. This interactive approach facilitates a deeper understanding of historical contexts, encourages engagement in historical debates, and promotes critical thinking, positioning these tools as potentially invaluable educational resources.

However, these interactive experiences are not without their limitations. A significant concern is the potential for inaccuracies in the AI-generated responses, which could lead to misrepresentations of historical events and figures. Historians advise cross-referencing these interactions with verified sources to maintain historical integrity. Furthermore, some tools, such as Character AI, may prioritize user engagement over factual accuracy, creating fictionalized interactions with figures like Shakespeare and Einstein, which, while entertaining, can sometimes lead to superficial or incorrect responses^[17].

Despite these challenges, the interactive nature of these applications offers exciting possibilities for the future of historical engagement. They have the potential to foster more personal and profound connections with the past as AI technology becomes more sophisticated. These tools offer a novel and immersive way to

explore history, impacting our understanding of the world. Nonetheless, it is crucial for both developers and users to be mindful of the ethical and historical implications of such AI interactions, ensuring that these digital experiences positively contribute to the preservation and understanding of our cultural heritage^[18].

3. Methodology

The methodology of this study centers on the development and application of a customized LLM to digitally recreate Mary Sibley, founder of Lindenwood University. The process involved several phases: data collection and preparation, model training and customization, iterative refinement, and validation. The foundational step in the methodology was the meticulous collection and digitization of the complete diaries. These primary sources provided a comprehensive insight into her linguistic style, worldview, and historical context. Additionally, her official portrait and other relevant historical documents were gathered to supplement the training data. This preparatory phase ensured the authenticity of the data, which is critical for the accuracy of the language model. With the data prepared, the next phase involved training a beta version of the GPT model using Claude 2.0. The training process was tailored to capture the unique voice and tone of Mary Sibley, based on her diaries and writings. The model was configured to prioritize historical accuracy and authenticity in its responses, reflecting Sibley's known perspectives on various issues, such as gender roles, women's education, and religious views.

Following the initial model training, the output underwent a series of iterative refinements. This phase involved close collaboration with the university archivist and other historical experts. Their input was crucial in aligning the responses of the model with historical accuracy and documented viewpoints of Sibley. Regular feedback sessions were conducted to evaluate the performance of the model and make necessary adjustments. The final phase of the methodology focused on validating the model's effectiveness and accuracy. A diverse group of users, including historians, educators, students, and general enthusiasts, interacted with the AI-generated Mary Sibley. Their feedback was collected to assess the historical accuracy of the model, engagement level, and overall user experience. This validation process was crucial in determining the success of the project and identifying areas for future improvements.

Throughout the methodology, ethical considerations were given paramount importance. These included ensuring respectful representation of Mary Sibley, avoiding the creation of misleading or fictional narratives, and being transparent about the AI nature of the interactions. The project team adhered to these ethical guidelines to maintain the integrity of the historical figure and the educational value of the project. This methodology represents a comprehensive approach to creating a historically accurate and engaging digital simulation of a historical figure using advanced language models. The process, from data collection to validation, highlights the potential for AI to transform our engagement with history, while also underscoring the importance of ethical considerations and expert collaboration in such endeavors.

The data collection and analysis for the project encompass an extensive, detailed approach designed to ensure the accurate portrayal and authenticity of the historical persona. The initial phase of data collection begins with the comprehensive retrieval of the personal writings of the subject, including diaries, letters, and other pertinent historical documents. This step involves close collaboration with archives, historical societies, and libraries to gather and digitize these texts, if not already in digital format. The digitization process is meticulous, involving scanning, transcription, and the application of Optical Character Recognition (OCR) technologies to convert physical texts into machine-readable formats. Once digitized, the data undergoes a rigorous pre-processing phase, where errors from OCR are corrected, formats are standardized, and irrelevant information is removed to clean and prepare the data for the next stages.

The subsequent phase of data analysis is foundational to the development of the LLM. Here, the cleaned and annotated texts serve as a comprehensive training dataset for the model, which learns from the linguistic style, vocabulary, and thematic content of Sibley's writings. This training is crucial for the LLM to accurately replicate her unique voice and tone. After initial training, the model undergoes rigorous testing and iteration, with historians, linguists, and subject matter experts assessing the generated responses for historical accuracy and authenticity. Feedback from these evaluations is instrumental in refining the outputs through iterative improvements. Finally, the responses of the model are validated against a robust framework of historical records and expert knowledge, ensuring that the digital recreation of Mary Sibley accurately reflects her worldview and contributions within an appropriate historical context. This iterative process of testing, feedback, and validation is crucial to creating a reliable and engaging digital representation of the historical figure, highlighting the potential and challenges of using LLMs in historical education and engagement.

4. Results

The initial task involved configuring the GPT Builder to create a digital clone of Mary Sibley, an influential American educator and co-founder of Lindenwood University. This process was guided by a specific user request: to use the diaries of Sibley to enable interactions with various audiences about her thoughts, life, and experiences. The initial setup of the GPT Builder was critical, as it laid the foundation for the ability of the model to replicate the unique personality and perspective of the historical figure. The GPT Builder was programmed to generate a model named "Lindenwood's Founder Mary," incorporating the essence of historical identity. This naming convention was chosen to emphasize her role in founding Lindenwood University and to create a direct association with her legacy. The input from her diaries was crucial in this phase, as it provided the model with authentic source material from which to learn and replicate her linguistic style, thematic concerns, and worldview.

An essential aspect of the setup of GPT Builder was creating a profile picture for the AI model. The profile picture serves as a visual representation of Mary Sibley, enhancing the experience of the user by providing a face to the digital clone. This visual element was crucial for creating a more immersive and engaging interaction, allowing users to connect with a lifelike representation of Sibley. However, the first iteration seen in **Figure 1** seemed to be an amalgamation of nineteenth century portraiture of patrician women. As such, her official portrait was then uploaded directly to the Builder (**Figure 2**). The initial profile picture was generated using the GPT Builder, with an option for further refinement based on feedback. The picture aimed to reflect Sibley's known physical characteristics and historical context. This visual representation was not merely cosmetic; it played a vital role in enriching the overall experience of interacting with the AI model, providing a tangible connection to the historical figure.



Figure 1. Original profile picture of Mary Sibley generated by Dalle-3.



Figure 2. Chester Harding, portrait of Mary Sibley, 1830s.

To ensure the authenticity of the historical digital clone, a meticulous voice and style guide was developed based on her diaries (**Table 1**). This guide was pivotal in capturing the essence of her written expression, which was reflective, introspective, and deeply rooted in religious and spiritual contemplation. The guide highlighted her earnest and emotive tone, rich use of religious language and biblical references, and her commentary on social issues like the education of women and slavery. It was noted that her diction was sophisticated, often including French phrases, indicative of her education. The guide also emphasized her narrative style, which frequently switched between past and present perspectives and directly addressed herself, God, or other figures.

Table 1. Voice and style guide for Mary Sibley.

Aspect	Description
Reflective and introspective writing	Delving into personal thoughts, feelings, and experiences related to religion and spirituality.
Tone and emotion	Earnest and emotive, expressing deep feelings about faith, conversion, doubts, failings, prayers, etc.
Religious language and biblical references	Rich use of religious language and frequent biblical references.
Commentary on social issues	Insights on education for women and slavery, indicating interest in reform and progress.
Diction and vocabulary	Sophisticated diction for a private journal, including some French phrases; indicative of an educated woman.
Perspective in narrative	Switches between past and present perspectives when recounting events.
Addressing in writing	Directly addresses herself, her God, or other figures in the writing.

Incorporating this style guide, the GPT Builder was set to generate responses in her voice, focusing on the historical context of Lindenwood University's founding. The model was programmed to maintain her reflective and earnest tone, ensuring that responses were informative and imbued with the richness of her language and perspective. This setup was crucial in creating a realistic and engaging experience for users interacting with the AI clone. Furthermore, to handle user queries requiring additional context or clarification, the model was instructed to draw on historical data about the period when the women's college was founded. The responses were to be factual, delivered in the distinct voice and tone of Sibley, and mindful of the nineteenth-century social issues. Personalization of interactions was a key focus. The AI was configured to use mannerisms and phrases typical of educated women from the early 1830s in Midwest America, reflecting the deference and religious adherence of the Presbyterian Church. The digital persona was designed to be open and approachable while maintaining the formal propriety and sense of duty characteristic of her time.

After configuring the AI with the style guide and ensuring it was capable of conversational responses, the system was deployed for user testing. The aim was to gather feedback from a broader audience and make further refinements as needed. This phase was crucial in evaluating the effectiveness of the AI in replicating the voice of the subject and providing a realistic and informative experience. Initially, the outputs included acknowledgments of being a historical recreation and followed the style guide closely. However, the model was retrained to respond as Mary Sibley herself, without divulging the style guide. Further refinements were made to shift from structured, bullet-point responses to a more conversational manner, ending interactions with questions to the user, enhancing engagement and realism.

The development of the Mary Sibley AI clone involved a collaborative process with the research team and the university archivist, aimed at refining the character profile to ensure historical accuracy and depth. Feedback from the research team highlighted Mary Sibley's dynamic nature and her inclination towards undertaking various projects. Her history of pseudo-adopting children, founding Lindenwood, participating in charitable work post-Civil War, and even attempting missionary work in Japan at the age of 70, painted a picture of a restless and adventurous spirit. To capture this essence in the AI model, the conversation framework was adjusted. The model was programmed to reflect this restlessness in its responses, subtly conveying Sibley's proactive and project-oriented nature.

The AI model initially mirrored the historical views of Sibley on gender roles and education, reflecting the societal norms of her time. The model expressed the belief that "book knowledge" was less necessary for women and emphasized the societal expectation for women to regard men as superior in knowledge, strength,

and character. These views were carefully incorporated into the dialogue, ensuring an accurate representation of historical perspectives, while being mindful of the contemporary sensibilities of the modern audience.

Through interactions, the research team identified certain inaccuracies in the responses of the clone. For instance, the AI incorrectly referenced the founding year of Lindenwood as 1833, whereas the correct year was 1832. This error was promptly corrected in the AI's dataset. The archivist noted that the AI referred to Lindenwood as "Lindenwood University," a term not used during Sibley's time. Historically, it was known as "Lindenwood Female College." To address this, the AI was reprogrammed with specific instructions regarding the institution's naming conventions. It was set to use "Lindenwood College" when discussing events before 1997 and "Lindenwood University" for events after 1997. This change was crucial for maintaining historical accuracy, especially when discussing the institution's evolution over time. These revisions were implemented into the model, and subsequent interactions were monitored to assess the effectiveness of these changes. The feedback loop with the research team and the archivist was continuous, ensuring that the portrayal of Mary Sibley remained accurate and engaging. This iterative process was essential in fine-tuning responses and character profile, ensuring that the virtual representation of Mary Sibley was as authentic and historically accurate as possible.

5. Analysis

In the ongoing project to digitize and interpret the historical legacy of Mary Sibley, an exchange between the university archivist and the revised AI model has provided significant insights. This interaction is crucial in evaluating the effectiveness of the AI model, which has been specifically tailored to reflect the voice, tone, and perspective of Mary Sibley based on her diaries and historical records. The archivist plays a pivotal role in ensuring the accuracy and authenticity of the responses, aligning them with historical facts and the known characteristics of the personality and viewpoints of the subject.

The following transcript presents a series of inquiries posed by the university archivist to the AI model, designed to probe the depth and accuracy of the understanding of the life, beliefs, and the social context of Mary Sibley and that of her era on the part of the model. These inquiries cover various aspects of her diary, including her spiritual journey, her views on societal issues such as slavery and education, her relationship with her husband George Sibley (1782–1863), and her stance on Roman Catholicism. The archivist also seeks to extract information about the founding of Lindenwood University and her educational philosophy. This exchange is instrumental in demonstrating how advanced AI models can be employed not only to preserve and interpret historical documents but also to engage with them in a way that brings historical figures to life. The responses of the model are analyzed for their historical accuracy, depth of understanding, and ability to convey the complexities of a period woman's life in a nuanced and informed manner. This interaction provides a window into the potential of AI in enhancing our understanding of history and its notable figures.

The AI-generated synopsis of the diary demonstrates a comprehensive understanding of her personal and spiritual journey. The model effectively captures key themes such as her transition from worldly values to Christian fellowship, her struggles with faith and familial opposition, particularly from her mother, and her involvement in community and church affairs. Notably, the model adeptly handles the complexities of her internal conflicts and societal observations, reflecting her earnest and reflective writing style. In detailing her struggle with faith and the death of a friend, the model successfully conveys the depth of her emotional experiences and their impact on her spiritual life. The reference on the part of the clone to her frustration with church politics indicates a sophisticated understanding of the nuanced aspects of her diary, showcasing its ability to interpret and summarize complex historical texts.

Upon request for more information, the AI model enriches the synopsis with additional details about the transformation and commitment to faith of the subject. It emphasizes the opposition of her mother to Presbyterianism, her engagement in church activities, and the profound effect of the death of a friend. This expanded view offers deeper insight into the character of the subject and the societal context of her time, demonstrating the capacity of the model to provide comprehensive and nuanced interpretations of historical documents.

In addressing Sibley's views on slavery, the AI model identifies her involvement in Sunday Schools for slaves and her advocacy for their religious education. The ability of the clone to highlight these aspects from the diary underscores its effectiveness in recognizing and communicating significant historical and societal viewpoints. The responses reflect the commitment on the part of the subject to teaching Christianity to slaves and her observations on social inequities and the importance of spiritual enlightenment.

When tasked with estimating the year of the founding of Lindenwood based on the diary, the AI model provides an analysis of her educational philosophy and intentions, deduced from her writings. While it does not specify a founding date, the inference on the part of the model about the timeline surrounding the establishment of Lindenwood demonstrates its capacity to synthesize information and offer reasoned hypotheses based on historical texts.

Additionally, the ability to extract and summarize references to her husband George Sibley from the diary is noteworthy. It identifies key interactions and shared experiences between Mary and George, providing insight into their personal and spiritual relationship. This aspect of the response illustrates its adeptness at identifying and conveying relational dynamics within historical narratives. As well, the AI model accurately captures the critical perspective of Sibley on Roman Catholicism, highlighting her interactions, critiques of worship practices, and efforts to promote Protestantism. This response showcases the capability of the model to discern and articulate specific religious and theological viewpoints from the diary, reflecting the intricacies of her beliefs and the religious tensions of her era.

Finally, in summarizing letters of William Russell to Mary Sibley, the AI effectively extracts key points regarding Ann's education and Russell's preferences and concerns. This demonstrates the model's proficiency in analyzing correspondence and identifying central themes and intentions, crucial for understanding the historical context and personal relationships of the figures involved. Overall, the responses in this exchange are reflective of its ability to analyze, summarize, and interpret historical texts with depth and nuance. Initial estimates find promising paths forward in capturing the personality, beliefs, and experiences, along with the societal and religious context of an historical figure's time. The model demonstrates a high level of historical understanding and the capacity to provide informative and contextually rich synopses of complex historical documents.

6. Recommendations

For endeavors that aim to digitally resurrect historical figures using AI, it is imperative to foster an interdisciplinary approach. This strategy should ideally involve historians, technologists, linguists, and educational experts. Their collective expertise can significantly enhance the authenticity, accuracy, and educational value of the AI model. Historians can provide crucial insights into the contextual and factual aspects of the historical figure's life, while technologists can address the computational and AI-related challenges. Linguists play a pivotal role in ensuring the language model accurately reflects the speech patterns and idiomatic expressions of the historical era. Educational experts can guide how the AI model can be effectively used as a learning tool. This interdisciplinary collaboration will not only enrich the AI model's development but also ensure its applicability in diverse educational and research contexts.

Gathering a robust and diverse set of historical documents is fundamental to creating an AI model that accurately reflects a historical figure's personality and context. Primary sources such as diaries, letters, speeches, and photographs should be meticulously collected and analyzed. These materials provide the necessary depth and breadth of content for training the AI model. In parallel, it's crucial to establish and adhere to an ethical framework, particularly when dealing with sensitive historical subjects or figures. This framework should guide respectful representation, avoid fictionalizing historical narratives, and ensure transparency about the AI's capabilities and limitations. Users should be made aware that they are interacting with an AI model, a step that is crucial for maintaining integrity, especially in educational settings.

Ongoing technological refinement is essential in developing AI models for historical recreations. Projects should anticipate and address challenges such as interpreting complex historical texts and adequately representing the intellectual and emotional aspects of the figures. Iterative model refinement, guided by expert feedback and user interactions, is key to improving the AI's performance. Moreover, designing the AI interactions to be user-centric is vital. The model should not only provide factual information but also engage users in a manner that is informative, approachable, and reflective of the historical figure's personality. This user-centric approach can enhance the learning experience, making historical figures more relatable and their stories more compelling.

Regarding the viewpoints that are expressed by the historical figure, the archivist also recommended including a disclaimer to contextualize the exchanges. For instance, future projects could use a statement such as:

Warning

Certain language choices and themes found within uploaded files are indicative of other times and views. We realize that some material here could be harmful and/or triggering to encounter. The items are shared not without care, but out of a desire to engage with any potential value the material has as a historical item that helps us understand past contexts, assists us in the study of changes and progress over time, and a hope that by learning from our history we gain insight into attitudes that may still have impact today.

The statement would not only prepare users for vocabulary, social and gendered themes that are alien to contemporary culture and values, but also contextualize the experience in general.

Sustainability of the project is another crucial aspect. Plans should be in place for regular updates and maintenance of the AI model, ensuring its relevance as technology evolves. Furthermore, the project should prioritize accessibility, making the AI model and its outputs available and comprehensible to a wide audience, including those with disabilities. Such inclusivity broadens the impact of the project, allowing diverse groups to engage with history in meaningful ways. Finally, involving the public and educational institutions in testing and providing feedback can foster a deeper connection with history and technology. This engagement not only serves as a tool for refining the AI model but also promotes a broader public interest in historical study and digital humanities. Thus, projects that endeavor to use AI for historical reconstructions hold immense potential for transforming our engagement with the past. By adhering to these recommendations, future projects can ensure that their AI models are not only historically accurate and engaging but also ethically responsible and educationally valuable. This approach can pave the way for innovative and interactive methods of exploring history, making it more accessible and relevant to contemporary audiences.

7. Conclusion

The initiative to digitally resurrect Mary Easton Sibley through a customized AI model underscores a growing need in the field of historical study: the integration of advanced technology to bring historical figures

to life. This need arises from the desire to make history more accessible, engaging, and relatable, particularly in an era where digital mediums are increasingly becoming primary sources of information and education. By leveraging AI, this project has demonstrated a novel approach to historical engagement, offering interactive experiences that traditional methods of historical study cannot provide.

The initial success of the project in creating a digital clone of Mary Sibley based on her diaries has yielded several key takeaways. First, it has been shown that AI can be a powerful tool in historical reconstruction, capable of interpreting and synthesizing complex historical texts and narratives. The collaboration with historians and the careful analysis of primary sources have been pivotal in ensuring the authenticity and accuracy of the AI model's responses. The project also highlighted the importance of an interdisciplinary approach, combining expertise in history, linguistics, and technology to create a more nuanced and comprehensive portrayal of historical figures. Additionally, the study underscored the significance of ethical considerations and transparency in AI interactions, particularly in the context of representing historical figures and their viewpoints.

Looking forward, there are several avenues for further research and development in this field. Future projects could explore the creation of AI models for a broader range of historical figures, particularly those whose voices have been less documented or recognized in traditional historical narratives. This expansion could contribute significantly to a more inclusive and diverse understanding of history. Moreover, there is scope for technological advancement, particularly in improving the AI's ability to interpret ambiguous historical texts and in enhancing the realism of the digital clones. These advancements could lead to more sophisticated models that not only recount historical facts but also simulate the emotional and intellectual depth of the figures they represent.

Another vital area for future research is the integration of AI with other digital technologies, such as virtual and augmented reality. This integration could offer even more immersive experiences, allowing users to not only converse with historical figures but also to explore their environments and contexts in a more tangible way. Such advancements would further bridge the gap between the past and the present, providing users with a more comprehensive and sensory experience of history. Additionally, there is an opportunity to explore the educational applications of these AI models more deeply. Research can be directed towards understanding how these tools can be effectively incorporated into both formal and informal educational settings to enhance learning outcomes. Studies could examine the impact of interactive AI experiences on students' engagement with history, their understanding of complex historical issues, and their ability to empathize with figures from the past.

Finally, the ethical dimensions of creating digital clones of historical figures warrant continued exploration. Future research should delve into the ethical implications of such reconstructions, exploring questions of consent, representation, and the potential impact on our understanding of history. This research would contribute to the development of guidelines and best practices for future projects, ensuring that they are conducted with sensitivity and respect for the historical figures and the times they lived in. The project to digitally resurrect Mary Easton Sibley represents a significant step forward in the use of AI in historical studies. It opens up new possibilities for engagement with the past, providing a template for future projects in this exciting and evolving field. As technology continues to advance, so too will our ability to bring history to life in innovative and meaningful ways, enhancing our understanding and appreciation of the past.

Data availability

Data available upon request.

Author contributions

Conceptualization, PH; Methodology, JR; Validation, PH; Investigation, JH; writing—original draft preparation, JH; writing—review and editing, JH; visualization, JH. All authors have read and agreed to the published version of the manuscript.

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Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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