

Reference Librarian turn to Chat GPT to provide Ready Reference Services and Current Awareness Services

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Abstract

The goal of this paper is to see if it is possible to incorporate chat GPT applications into library reference services. This paper provides an overview of the Chat GPT application, which is being integrated into library services to provide users with ready reference and current awareness services. The paper discusses the role of the reference librarian in the age of chat GPT, such as user guidance and content creation. The advantages of chat GPT were identified, such as improving search and discovery, database development, cataloguing, and content creation, and providing a 24/7 current awareness service, which meets a demand that librarians are sometimes unable to meet. Chat GPT issues such as confidentiality and bias, availability issues, and accuracy issues were also discussed. There were suggestions offered to enhance the chat GTP service.

Keywords: Artificial Intelligence (AI), Natural Language Processing (NLP), Deep Learning (DL), Machine Learning (ML), Neural Networks(NN), Conversational AI (CAI), Chatbot, Language Model (LM), Text Generation (TG), Sentiment Analysis (SA), Knowledge Graph (KG), Transformer Architecture (TA), Generative Pre-trained Transformer (GPT), Data Science (DS), Big Data (BD), Robotics, Computer Vision(CV), Reinforcement Learning (RL), Image Processing(IM), Speech Recognition (SR)

1. Introduction

An interactive chat interface is used by Chat GPT, an artificial intelligence-powered chatbot application, to provide information in response to user requests. Chat GPT is a highly developed AI tool, greatly reflective of the future of AI in the globe, and can supply nearly unlimited and the all service and knowledge about any issue as per your wants. However, Chat GPT is a very powerful and versatile tool that can undertake a large number of different tasks, including answering emails, analyzing essays, writing songs, conversing with a person, rephrasing, computer coding and decoding, programming languages, and much more. Chat GPT has been pre-programmed to mimic a verbal interaction. The usage of Chat GPT in higher education has taken several different forms, incorporating language translation, essay grading and feedback, individualized learning research support, and virtual torture and counselling (Brady and Wang 2023). Open AI's Chat GPT is a free tool built on the GPT language model technology (Kirmani, 2022). Advanced chatbot is capable of comprehending and interpreting user requests, producing suitable responses that are virtually human-like, and performing sophisticated tasks like writing thank-you messages and addressing productivity issues. In order to comprehend and analyze user queries and then produce appropriate responses in almost normal human language, Chat GPT makes advantage of its vast data storage and effective architecture.

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An important advancement in the fields of natural language processing and artificial intelligence, Chat GPT's capacity to produce human-like discourse and finish challenging tasks goes beyond its useful applications. Although Chat GPT has a lot of helpful features and capabilities, it also has some significant flaws. Before using the tool for your academic and everyday activities, as a user, you should be aware of its benefits and drawbacks as well as any potential risks.

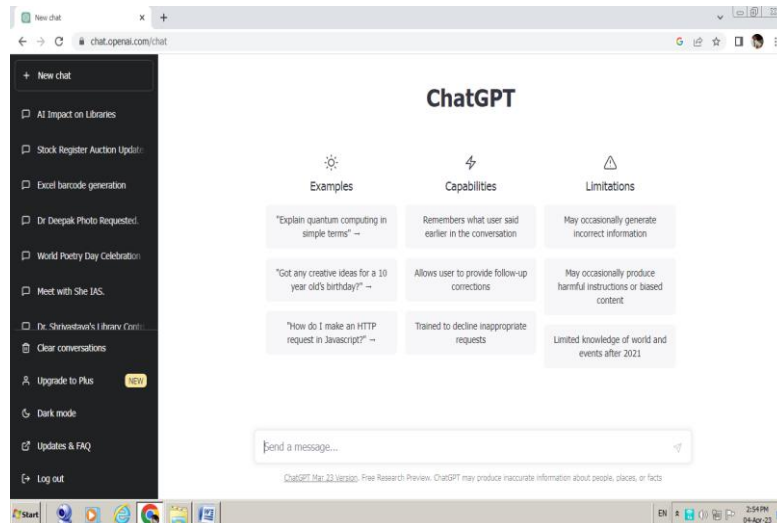


Figure 11 ChatGPT Query Box

2. The Concept of Chat GPT

CHATGPT is a variant of the GPT (Generative Pre-Training Transformer) language model, which was developed using open-source AI. GPT models are instructed to write in a manner similar to human speaking. Chat GPT is trained on a sizable dataset of human conversations in order to learn how to generate appropriate responses in a variety of circumstances (Haleem, et al., 2022). Chat GPT is designed especially for use in conversational systems and chatbots. One of the most significant effects of this type of technology is the concept of "explorative communication," or the ability to quickly learn critical details about a practically infinite number of subjects by formulating simple queries. (Haleem et al., 2022). Chat GPT is a complex but effective language model that can produce accurate natural-sounding text responses difficult to differentiate from human-generated text, (Huzaif, 2023). The Chat GPT model can produce text that is similar in tone and content to human conversation because it has been trained on a large quantity of text data, including conversations and other human-generated text. It can be used to generate questions, code, recommendations, or information in a conversational manner. Chat GPT can generate countless new word combinations and can respond to text queries with in-depth explanations. Nowadays, people use Chat GPT for a variety of tasks, including composing essays, reference services, fictional stories, poems, and even movie scripts.

3. The Role of Reference Librarians

The library has been defined as a collection of books and other information resources gathered for reading, studying, and referencing, (Edoka 2017). Before the 19th century, specifically, preservation of library resources was the librarian's guiding principle.

Ranganathan (1931) noted in his five laws of library science, "Books are for use." In other words, the librarian wants to make sure that users have as much access to knowledge as possible. He therefore "goes the extra mile" to assist. After giving the books to the users, he is expected to allow them to assist themselves as much as possible rather than to settle back and unwind. According to Edoka (2017), it is the library's duty to make sure that its services and resources are utilized.



Figure 12 Librarianship and AI Using ChatGPT

This issue is so fundamental that one can define a library in terms of use, for example, a facility with a thousand items of information that are effectively used can be a library, while a facility with a million documents that are not placed in this category. The reference librarian is not only the library's face; he is also the link between the library's tools and their users. As a result, it is argued that in order to serve users successfully, the librarian must have a working understanding of both the resources and the users. The reference librarian is in charge of offering research assistance using a variety of techniques. She or he also offers assistance to people who come to the library to file self-representation complaints. Reference librarians engage in direct customer interaction by responding to inquiries and offering clear, concise responses or information. The interaction of the reference librarian, the reference collection, and the reference materials is central to reference work. The reference librarian acts as a liaison between library patrons and the world of informational tools and materials available in the library. He will stand out as the best reference librarian because of his talent for matching the appropriate tools with the appropriate user.

Reference materials are highly specialized periodicals that shouldn't be read in one session or page by page like textbooks, (Anyamvu 2019). When seeking specific knowledge, they are consulted. These reference books share the common trait that the majority of them are alphabetically organized to make it simple for the user to find information. To make it easier to quickly find the material in the main body of the work, they are also accompanied by an index. These resources include dictionaries, encyclopedias, bibliographies, indexes, and abstracts; almanacks; yearbooks; annuals; dictionaries; handbooks; and government papers, among others. With modern technology, there are additional sources other than book materials that the librarian must become familiar with in order to effectively serve the clientele in need of the information contained in such resources. These are referred to as non-book resources or multi-media, and they are further classified as audio, visual, and audio-visual. Video cassettes, discs, slides, transparencies, and other media like chat GPT. Their advantage is that they can store a large quantity of information in a small space and play an

important role in stimulating the receiver's imagination. Anyamvu (2019), on the other hand, listed the primary tasks and responsibilities of reference librarians as including the following;

- (i) Give guidelines and direction on how to use library catalogs, legal databases, methods of research, and processes.
- (ii) Provide users and self-represented plaintiffs with reference services, either directly or through email and chat.
- (iii) Conduct both immediate and in-depth study.
- (iv) help users with computers and other tools, and assist in testing new electronic research services.
- (v) Help clients and litigants who are representing themselves at the reference points, etc.

4. The role of the Librarian in the Age of Chat GPT

The reference librarian interacts with users directly by attending to their information needs and providing tailored instruction. A librarian may also recommend, interpret, evaluate, and/or use information resources to assist clients with specific information requirements similar to Chat GPT, librarians have been taught to gather meaning from questions asked by users. Libraries currently utilize chatbots to respond to simple reference inquiries and direct more complex ones to librarians. Simply put, Chat GPT is an addition to the current awareness services. A librarian can help researchers by offering advice on how to formulate the best possible research questions. These tools also give librarians additional time to work on jobs or reference requests that are more difficult or complex, (Nawaz and Saldeen 2020). The rapidly evolving digital technological advances that have affected library services like infrastructure, content creation, reference service, collection development, web browser, knowledge and information management techniques have forced librarians to adapt (Bryan 2022). In obtaining, arranging, and managing access to the greatest information sources for the organization as a whole, librarians have a special responsibility to perform. The demands and expectations of the user have greatly increased, and librarians are attempting to support ongoing learning. in the course of. The following was listed by Joute (2020) as the function of librarians in the Chat GPT era:

- (i) Guidance for users: Librarians should assist users in improving their information literacy and acting as a conduit for knowledge.
- (ii) With new information services being offered and rising trends in information and communication technology, librarians must be knowledgeable and skilled in ICT. The various purposes of chat GPT in library services must be understood by librarians.
- (iii) A librarian should have expertise in utilizing Chat GPT, finding information online, and managing information effectively in the digital age.
- (iv) Also, the librarians should be highly skilled and knowledgeable, able to extract, filter, and communicate virtual external knowledge, and willing to collaborate with users in gathering and evaluating strategic intelligence.
- (v) Every service offered by the library is subject to change at any time. To respond to changing demands, keep a good attitude, and assist others in doing the same, librarians must take on various tasks at various times.

5. Advantages of Chat GPT for Information and Libraries

Natural language processing and machine learning algorithms are used by Chat GPT to comprehend student requirements and offer precise and beneficial responses. The following are the main advantages of chat GPT to the libraries.

- (i) Chat GPT can be used for search and discovery to increase accuracy and efficacy by returning more pertinent results.
- (ii) Chat GPT can be used to offer automated reference and information services, such as responding to frequent inquiries or offering details on library-related issues.
- (iii) Chat GPT can be used to automatically create cataloguing and metadata for library materials, such as book names and other bibliographical descriptions.
- (iv) Summaries, abstracts, and other types of information can be produced using the paradigm to make it easier to access library resources.
- (v) They also offer a 24/7 current awareness service, meeting a demand that librarians sometimes are unable to.

Chat GPT, on the other hand, provides library users with personalized learning, research assistance, the creation of content to aid learning, and fast access to information resources.

6. Issues with Chat GPT for libraries

There are a number of outcomes that can arise from using Chat GPT for NLP tasks in libraries. In this regard, Agomuoh (2023) listed five problems that are related to Chat GTP, including;

- (i) Availability issues: GPT chat Due to the tremendous volume of traffic the website has received since becoming an internet hit, AI Chatbot has been having capacity challenges. A lot of new users have trouble setting up an account.
- (i) Racism and bias problems: It have been shown that Chat GPT has certain problems with the chatbot's racial and gender bias. The idea of racist attitudes in technology is not at all new.
- (ii) Students are already getting caught conducting plagiarism at the university and college levels using chat GPT.
- (iii) There is presently no mobile application; the entire free Chat GPT has only ever been accessible as a browser-based platform. There isn't a mobile app to take chat Conversations on it.
- (iv) However, despite Chat GPT's widespread use, its accuracy problems have been well-reported since the program's introduction. As the chatbot Open AI acknowledges, it "has limited awareness of world affairs after 2021." Also, if there is little information on a subject, it is prone to filling up responses with inaccurate data.
- (v) The controversial method by which it was trained: Chat GPT is based on an algorithm that is continuously learning and gathers corrections based on user interaction in addition to information that is scraped from the internet.

In another case, some disadvantages of using messaging GPT models in libraries include discrimination and bias, as well as restricted adaptability. Additionally, because the model might create highly realistic synthetic text or speech, it might be possible for users to pass

for others and violate their right to privacy. Also, the model might generate extremely sensitive data, such as private and sensitive financial and medical information, which could be a security risk.

7. Conclusion

While ChatGPT and other AI-based tools have certainly transformed the way we access information and search for answers, they cannot fully replace the value of reference librarianship. Librarians possess expertise in information management and retrieval, and they play an important role in helping users navigate and make sense of the vast amount of information available.

AI tools like ChatGPT can be a valuable supplement to reference librarianship, providing quick and convenient answers to straightforward questions. However, more complex inquiries, research needs, and in-depth consultations often require the human touch that librarians provide. Additionally, librarians also offer services like reader's advisory, collection development, and programming that cannot be replaced by AI.

Rather than replacing reference librarianship, AI can help librarians enhance their services and better meet the needs of users. Libraries can invest in training librarians to use AI tools effectively and incorporate these tools into their reference services as appropriate. This will allow librarians to provide even more valuable and efficient service to their patrons.

8. Recommendation

As an AI-based tool, ChatGPT can be a valuable resource for reference librarians to use in their work. Here are some recommendations for librarians to incorporate ChatGPT into their reference services:

1. Identify the types of questions ChatGPT can answer: ChatGPT is well-suited for answering straightforward, factual questions that can be answered with a short response. Librarians can use ChatGPT to handle these types of queries, freeing up time for more complex questions that require a human touch.
2. Train librarians on using ChatGPT: It's important for librarians to have an understanding of how ChatGPT works and how to use it effectively. Provide training to librarians on how to use ChatGPT, including how to ask effective questions and how to evaluate the responses provided.
3. Integrate ChatGPT into reference services: Incorporate ChatGPT into your reference services as appropriate. This can include adding a chatbot to your library's website or using ChatGPT to handle after-hours reference questions. Ensure that patrons are aware of the availability of ChatGPT and how to use it.
4. Monitor ChatGPT responses: While ChatGPT is a powerful tool, it is not perfect. Librarians should monitor the responses provided by ChatGPT to ensure they are accurate and appropriate. If a response is incorrect or inappropriate, librarians should correct it or provide additional information to the patron.
5. Evaluate the effectiveness of ChatGPT: As with any new tool or service, it's important to evaluate the effectiveness of ChatGPT. Collect feedback from patrons and librarians on the use of ChatGPT and make adjustments as needed to ensure it is meeting the needs of your library's users.

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