



IJIRCCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 12, Issue 9, September 2024

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.625



9940 572 462



6381 907 438



ijircce@gmail.com



www.ijircce.com



An In-Depth Review of ChatGPT Applications and their Advantages

Dr. R. Sangeetha¹, Dr. T. Rajalakshmee², Dr. D. Elantamilan³

Assistant Professor, Department of Computer Applications, Vallal P.T.Lee Chengalvaraya Naicker Arts & Science College, Chennai, Tamil Nadu, India¹

Assistant Professor, Department of Computer Science & Applications, Gonzaga College of Arts & Science for Women, Krishnagiri, Tamil Nadu, India²

Principal, Vallal P.T.Lee Chengalvarya Naicker Arts & Science College, Chennai, Tamil Nadu, India³

ABSTRACT: ChatGPT is an artificial intelligence chatbot that utilizes natural language processing to produce human-like conversational responses. The language model can handle inquiries and create various types of written content, such as articles, social media posts, essays, code, and emails. As a generative AI platform, ChatGPT allows² users to provide instructions to obtain AI-generated humanlike text, images, or videos. Like automated chat services on customer service websites, users can ask ChatGPT questions and receive detailed explanations. GPT stands for 'Generative Pre-trained Transformer,' which explains how ChatGPT processes requests and generates responses. This paper primarily covers the history, working model, advantages, disadvantages, and use cases of ChatGPT.

KEYWORDS: ChatGPT, Chatbot, Natural Language Processing and Artificial Intelligence.

I. INTRODUCTION

OpenAI created ChatGPT (Generative Pre-trained Transformer), popularly referred to as a chatbot, as an AI tool and virtual assistant. The date of its launch was November 30, 2022. The twenty-first century has brought about significant changes in several sectors of education. With more than 100 million users, ChatGPT has become a well-liked option for educators, researchers, and students. It converses naturally and responds to user inquiries in a manner resembling that of a human using natural language processing (2). Complex jobs are no match for ChatGPT's abilities, which include interpreting, summarizing, and enlarging text in addition to composing essays, poems, articles, and original computer code (3, 4). Students are using this tool for academic, social, and personal goals because of its effectiveness (1).

GPT-1 : the first generative pre-trained transformer, released in 2018.

GPT-2: a more capable version of GPT, released in 2019.

GPT-3: an improved version of GPT-2, released in 2020.

ChatGPT 3.5: a free version released in 2020 with a bar exam score in the bottom 10%. ChatGPT 4.0: the most recent version released in 2023 with a score in the top 10% on the bar exam.

Among these versions, ChatGPT 3.5 is the most widely used tool for end users, with the majority of users using it for research, teaching, writing articles, and essays.

Working Model of ChatGPT:

Utilizing a vast text dataset, ChatGPT harnesses this wealth of information to grasp the intricacies of language nuances, grammatical structures, and the underlying meaning within words and sentences. As a result, it obtains skill in recognizing the context and intentions encoded in user inquiries, so enabling the generation of relevant responses(5). The working model of CHATGPT is explained by Fig 1 displayed below.



International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

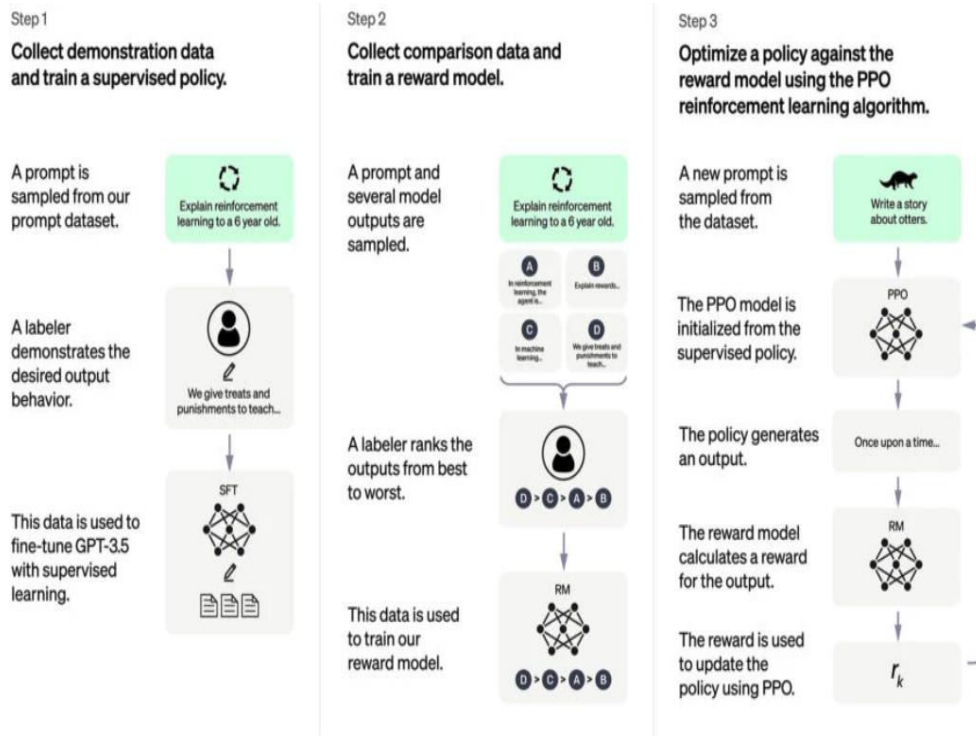


Fig 1. Working Model of ChatGPT

II.CHATGPT USE CASES

19 use scenarios for ChatGPT(6) are listed below:

- **Virtual Assistant :** Serves as a personal helper, assisting with simple chores like reminders and scheduling.
- **Customer Support:** Offers automated customer care, addressing typical problems and responding to frequently requested concerns.
- **Content Generation:** Provides support in producing written content for websites, blogs, and social media captions.
- **Language translation** is the process of translating text between languages.
- **Tutoring and Education:** Provides individualized instruction in a range of areas as well as tutoring services.
- **Coding Assistance:** Provides programmers with comprehensive explanations, debugging assistance, and code recommendations.
- **Creative Writing Collaboration:** Creating ideas and offering helpful criticism are two ways partners might collaborate on creative writing projects.
- **Decision-Making Support:** Provides information, balances advantages and disadvantages, and shows alternatives to help users make well-informed decisions.
- **Travel Planning:** Offers advice on where to go, assists in creating itineraries, and locates the greatest offers.
- **Mental Health Support:** Provides advice on how to deal with stress, anxiety, and other mental health issues while listening.
- **Personal Finance:** Helps with financial planning, investing, and budgeting.
- **News and Information:** Provides current news, weather predictions, and general information on a range of subjects.
- **Learning New Skills:** Assists users in picking up new skills like playing an instrument or picking up a new language.
- **Game Companion:** Serves as a guide in video games, offering hints, tips, and strategies.



International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

- **Event Planning:** Aids in event planning by recommending venues, caterers, and entertainment.
- **Recipe Suggestions:** ChatGPT can make recipe recommendations based on dietary restrictions, readily available ingredients, or particular cuisines.
- **Personal Stylist:** Offers fashion advice and outfit recommendations customized to individual preferences.
- **Historical Conversations:** ChatGPT can imitate discussions with historical personalities to provide a window into their viewpoints and lifestyles.
- **Language Practice:** By involving users in talks, it acts as a tool for language practice, helping users improve their language abilities.

Although there are numerous use cases covered in this review, ChatGPT's capabilities go much beyond these instances.

III. ADVANTAGES OF CHATGPT

It responds to customer inquiries quickly and precisely, making it perfect for jobs that require instant help. In order to deliver pertinent information, ChatGPT uses its memory of prior exchanges in the same dialogue flow. Until they are happy with the response, users can ask for revisions or clarifications. It has been trained to politely turn down requests that aren't proper. ChatGPT guarantees accessibility anytime needed by providing round-the-clock responses and help due to its 24/7 availability. ChatGPT can efficiently respond to a wide range of inquiries by drawing from a vast reservoir of information up to its knowledge cutoff.

It serves a worldwide audience by facilitating multilingual communication. ChatGPT maintains its objectivity and impartiality by only presenting information based on facts and expertise. It guarantees responses that are consistent and free from weariness or distraction, providing a dependable degree of support. Because ChatGPT can manage a lot of people at once, it works great for companies and organizations with a lot of activity. By not storing user information or personal data, it puts user privacy first. ChatGPT is an excellent teaching tool that helps people learn about a variety of subjects.

IV. DISADVANTAGES OF CHATGPT

The following list of roughly ten ChatGPT disadvantages includes a comparison to the Google Search Engine (8):

ChatGPT is prone to mistakes and abuse. When compared to ChatGPT, the Google Search Engine typically yields more robust and precise information. When it comes to search results derived from user-entered keywords, Google is superior to ChatGPT in this regard. While Google pulls results based on keywords and filters them from a large database of reliable websites, ChatGPT requires users to enter specific queries. Occasionally, ChatGPT may provide inaccurate results, requiring user verification—this is particularly true for calculations, formulas, and coding samples in Python and MATLAB.

It can be programmed to produce answers that take advantage of weaknesses in policies. When it comes to recent developments in technology and untrained events, ChatGPT's expertise is restricted. Keeping context in long-form discussions might be difficult for ChatGPT, resulting in responses that are inconsistent or irrelevant. Because ChatGPT lacks real-world expertise, it might not always be able to offer helpful guidance. In some human interactions, emotional intelligence and empathy are critical, and ChatGPT falls short in these areas. The use of AI chatbots like ChatGPT in some businesses may result in the loss of jobs for human customer service representatives.

V. CONCLUSION

Despite its drawbacks, ChatGPT is still a fantastic virtual assistant solution. It works in an area that is continuously developing, growing, and has a lot of promise. Improved comprehension of natural language, managing increasingly complicated activities, heightened customization, and integration with other technologies are among the areas that need improvement. Users frequently choose ChatGPT and the Google search engine in tandem to take advantage of their unique benefits and features. Look into augmented reality, machine learning, and artificial intelligence for further details.



International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

REFERENCES

1. Maria Radeva The Benefits and Risks of ChatGPT for Education
2. Deng, J., and Lin, Y, “The Benefits and Challenges of ChatGPT: An Overview” , Frontiers in Computing and Intelligent Systems, Vol 2, Issue 2, pp 81–83 2023. <https://doi.org/10.54097/fcis.v2i2.4465>
3. Tate, T., Doroudi, S., Ritchie, D., Xu, Y., & Warschauer, M, “Educational Research and AI-Generated Writing: Confronting the Coming Tsunami “ EdarXiv Preprints.2023 <https://doi.org/10.35542/osf.io/4mec3>
4. Williams, C, “ Hype, or the future of learning and teaching? 3 Limits to AI’s ability to write student essays – Kent Academic Repository” . The London School of Economics and Political Sciences internet blog. Retrieved October 9, 2023, from <https://kar.kent.ac.uk/id/eprint/99505>
5. <https://uca.edu/cetal/chat-gpt/>
6. <https://emeritus.org/blog/ai-and-ml-chatgpt-use-cases>
7. <https://www.rfwireless-world.com/Terminology/Advantages-and-Disadvantages-of-ChatGPT.html>



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

 9940 572 462  6381 907 438  ijircce@gmail.com



www.ijircce.com

Scan to save the contact details