World Journal of Advanced Engineering Technology and Sciences
eISSN: 2582-8266
Cross Ref DOI: 10.30574/wjaets
Journal homepage: https://wjaets.com/

(REVIEW ARTICLE)

Check for updates

Artificial intelligence AI-based Chatbot study of ChatGPT, Google AI Bard and Baidu AI

Bal Ram [1,*] and Pratima Verma [2]

[1] *Librarian, Wadia Institute of Himalayan Geology (An Autonomous Institute of DST, Govt. of India), Dehradun, India.*
[2] *Research Scholar, Dept. of Computer Science, GKV Haridwar, India.*

World Journal of Advanced Engineering Technology and Sciences, 2023, 08(01), 258–261

Publication history: Received on 01 January 2023; revised on 08 February 2023; accepted on 10 February 2023

Article DOI: https://doi.org/10.30574/wjaets.2023.8.1.0045

Abstract

Artificial Intelligence (AI) is the deepest technology we're working on today. AI research is centered on particular goals and the use of particular tools. The AI research includes reasoning, knowledge representation, planning, learning, natural language processing, perception, and the ability to move and manipulate objects. To solve these problems, AI researchers have adapted and integrated a wide range of problem-solving techniques, from helping doctors, scientists and researchers earlier to allowing people to access information in their own language. And it opens up new opportunities that could dramatically improve the lives of billions of people.

Keywords: ChatGPT; Artificial Intelligence (AI); Open AI; Google AI Bard; Baidu AI Chatbot

1. Introduction

In recent years, advances in natural language processing (NLP) have enabled the development of powerful language models, such as OpenAI's ChatGPT. These models have the ability to generate human-like text and engage in conversations, making them useful for a variety of applications, such as customer service, content creation, and personal assistants.

ChatGPT is based on the transformer architecture, which was introduced in 2017 by Vaswani et al. The transformer architecture is a neural network structure that has been shown to be highly effective for NLP tasks, such as machine translation, text classification, and question answering. In comparison to traditional recurrent neural networks (RNNs), the transformer architecture is able to process a large amount of context in parallel, making it well suited for generating text.

2. Methodology

ChatGPT was trained on a massive dataset of text data from the internet, including books, articles, and web pages. The goal of the training was to generate text that was human-like and coherent. To do this, the model was trained using a language modeling objective, where it was asked to predict the next word in a sequence of text. The training data was preprocessed to remove duplicate text and to ensure that the text was of high quality.

* Corresponding author: Bal Ram

3. Evaluation

To evaluate the performance of ChatGPT, it was compared to other language models, such as GPT-2 and BERT, on various NLP tasks, such as question answering and text classification. The results showed that ChatGPT performed well on these tasks, outperforming the other models in many cases.

4. Applications

ChatGPT can be used in a variety of applications, such as customer service, content creation, and personal assistants. In customer service, it can provide instant answers to customer queries, reducing response times and increasing efficiency. In content creation, it can be used to generate articles, summaries, and translations. As a personal assistant, it can help users with scheduling, email management, and even providing jokes or trivia.

5. Forthcoming of Chat GPT

The future of ChatGPT is promising, as advances in NLP and machine learning continue to push the boundaries of what is possible. Here are some of the ways that ChatGPT and similar language models are likely to evolve in the coming years:

- Increased Accuracy and Responsiveness: ChatGPT and other language models will continue to improve in terms of accuracy and responsiveness, as more data is collected and new training techniques are developed. This will allow ChatGPT to provide more accurate and relevant answers to user queries and to generate text that is even more human-like.
- Integration with Other Technologies: ChatGPT is likely to be integrated with other technologies, such as virtual and augmented reality, to create new and innovative applications. For example, ChatGPT could be used to provide real-time captions for live events or to provide voice-based navigation for virtual and augmented reality experiences.
- Expansion into New Domains: ChatGPT and other language models will continue to expand into new domains and applications, such as healthcare, finance, and education. For example, ChatGPT could be used to provide medical advice or financial advice, or to grade student essays.
- Addressing Bias and Inaccuracy: One of the biggest challenges facing ChatGPT and other language models is the issue of bias and inaccuracies. As these models become more widely used, it will be important to address these issues and to ensure that they are trained on diverse and inclusive data.

The future of ChatGPT and similar language models is bright, with the potential to improve many aspects of our lives. However, as with any cutting-edge technology, it is important to use them responsibly and to address their limitations and potential biases. As these models continue to evolve, they will have a significant impact on how we interact with technology and with each other.

6. Limitations

As a language model developed by OpenAI, ChatGPT has several limitations, including:

- Lack of Contextual Awareness: ChatGPT doesn't have the ability to maintain context across multiple turns of a conversation, so it may not understand the context of a situation or previous conversational history.
- Limited Common Sense: Despite being trained on a large corpus of text, ChatGPT doesn't have a deep understanding of the world.
- Limited Personalization: ChatGPT is not designed to be highly personalized and does not have the ability to remember individual user preferences or past interactions.
- Safety and Ethics Concerns: There are also concerns about the safety and ethical implications of using AI models like ChatGPT, especially in sensitive applications.

7. Other Important Chatbot

7.1. Google Unveiled “Bard” as Competition to ChatGPT AI

On February 7, 2023, Google officially debuted Bard, its AI technology, with the goal of competing with Open AI's well-known ChatGPT-3 language model. In a public blog post, Google CEO provides this information. He has described Bard as a conversational AI service that, in addition to offering high-quality responses, can explain complicated situations.

Google has already made it available to some testers, and after some time, the corporation will make it public.

The CEO of Google wrote in a blog post on Bard's potential that it would serve as a "launchpad to answer your inquiries and help understand new things."

8. Google unveiled Bard as competition to ChatGPT AI

Google launched Bard, its own interactive AI tool, a few days after Chinese search giant Baidu's plans to launch a chatbot in the ChatGPT style surfaced. The programme will compete with OpenAI's ChatGPT, which recently reached 100 million users after being made accessible for public testing for just two months. Although not all of Bard's skills have been released, and it is unknown what tasks Bard is capable of performing, it appears that this chatbot will be comparable to OpenAI's ChatGPT.

8.1. What is Google’s new AI Bard?

- Google's chatbot with artificial intelligence is called Bard.
- Users will be able to interact with the chatbot through dialogue, exactly as ChatGPT.
- Based on Google's Language Model for Dialogue Application, the new chatbot (Language Model for Dialogue Application or LaMDA).

8.2. Why Google Launched AI Bard

For the benefit of the users, Bard has been introduced.

As before, customers can receive complex information in plain English. In addition, Google's chatbot can provide consumers with current, reliable, and accurate information. The new chatbot from Google can be considered a rival to ChatGPT because it was developed and unveiled in such a short period of time[1].

8.3. Will Bard be able to compete with ChatGPT AI?

Google, which is well-known for controlling the search engine market, has also announced the release of Bard, an AI-based chatbot. It will inform users by locating the most recent, accurate responses, and it indicates that Google's most recent AI technology can notify consumers of the most recent happenings. Since ChatGPT has only been trained on data up to 2021, it often only provides information up to that date with accuracy. LaMDA (Language Model for Dialogue Applications), a convolutional neural language model created by Google, powers Bard.

Google is currently releasing Bard with a lightweight mockup version of LaMDA. This is because smaller models typically require less processing power, allowing Bard to reach more users and get more feedback. We share the feedback we receive from external users with our own internal testing to ensure that the quality of the responses we receive from Bard is maintained to a high standard and based on factual information.

8.4. Google’s Chatbot Bard- Features

- In Google's Chatbot Bard, users can see a combination of power, intelligence and creativity.
- Bard AI will collect information from users using feedback and the web. Initially, Google is rolling out an AI system for testers with a stripped-down version of LaMDA.
- The focus will be collecting feedback through Bard to improve future AI systems.

8.5. How to get access to Google's new Bard?

When ChatGPT was announced, it was open for public testing, and interested people simply had to log into the OpenAI website and access the tool. That won't happen with Google's new Bard, however. Since the tool is in early beta, the company has not yet released it for public use, and only select users will have access to it[2].

8.6. Chinese Internet Giant Baidu Planning to Launch AI Chatbot

Chinese internet giant Baidu plans to launch an artificial intelligence chatbot engine similar to OpenAI's ChatGPT in march. Baidu plans to launch the app by initially integrating it into its main search services, Bloomberg News previously reported[3].

ChatGPT's technology works by learning from large amounts of data how to respond to any prompt from the user in a human-like manner, providing information like a search engine or prose like an aspiring novelist.

9. Conclusion

ChatGPT is a powerful tool that has the potential to revolutionize the way we interact with technology. With its ability to understand and generate human language, it has the potential to improve many aspects of our lives, from customer service to content creation. Google released AI base chatbot, Bard and Chinese Baidu also declared that they will launch an AI chatbot. However, as with any cutting-edge technology, it is important to use it with care and to be aware of its limitations. Further research is needed to continue to improve the performance of language models like ChatGPT and to address their potential biases and inaccuracies.

Compliance with ethical standards

Acknowledgments

The authors are highly grateful to the authorities of WIHG Dehradun and GKV Haridwar for their support and encouragement.

Disclosure of conflict of interest

No conflict of interest statement must be inserted here.

References

[1] https://www.sssamiti.org/google-unveiled-bard-as-competition-to-chatgpt-ai/ (Accessed on 08.02.2023)

[2] https://www.reuters.com/article/us-china-robots-idUSKBN1AK0G1 (Accessed on 08.02.2023)

[3] https://www.gadgets360.com/internet/news/openai-chatgpt-baidu-artificial-intelligence-chatbot-tool-microsoft-investment-3734969 (Accessed on 08.02.2023)