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Comprehensive Study of Advantages, Limitations, Applications and Similar Tool of ChatGPT

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Abstract— ChatGPT is nothing but a natural language processing model which takes input from humans and gives them the response which is appropriate according to him. ChatGPT gives the data which is already in the search engine and cannot create the data of its own. It is not creative, as it cannot create its own content. It is very powerful tool which helps in writing code, preparing for interview, calculating mathematical solution though it has various drawbacks such as it lacks logical reasoning, cannot calculate complex mathematical calculation like irrational number to the power of irrational number, it also makes grammatical error and it does not have information from recent scenario, you get information which occurred 2 years back. But it has industrial application like it is used as customer support in many companies, used to keep routine of employee in company by providing them proper schedule for work, it is also used to get code which makes works of employee lot more easier, So this are the key points about it.

Keywords—(Natural Language Processing Model, Logical Reasoning, Complex mathematical solution, irrational number, grammatical error, industrial application)

³ I. INTRODUCTION

In recent years, advancements in artificial intelligence (AI) have drastically transformed various sectors, with natural language processing (NLP) technologies are particularly influential. Among these innovations, ChatGPT—developed by OpenAI—stands out as a important example of a powerful language tool designed to understand and generate human-like text. This review paper aims to provide a comprehensive examination of ChatGPT, focusing on its advantages, limitations, applications, and comparisons with similar tools in the field. ChatGPT is made with the help of an open AI. It acts like human by perform humanly task such as explaining complex topics of black hole and how it is created[12]. You can also get cooking recipes, educational help like writing essay and it writes

the essay in its own words so it will not match with others and you can also get health tips from it. But it gives error in case of solving complex mathematical problem, for e.g. if you ask what will be 2.5 to the power of 3.2 it will give you answer as 9.297 which is wrong, the correct answer would be 18.7675 and if you try to correct its mistake it would run a code in front of you and would give different answer close to 9.297 and if you say that answer which is given in calculator is different it would give the response that answer given is correct according to calculator and that given by ChatGPT is correct in its context. To overcome this problems faced by ChatGPT various Open-AI tool like Chatsonic, Gemini and Meta AI are made. One of the prominent AI tool is Chatsonic, it is proving to be perfect replacement for ChatGPT, as it provides creative writing which Chatgpt cannot do and it also gives right grammatical output while in many cases ChatGPT performs grammatical error, so there are various benefits of ChatGPT but there are lots of limitations in it which makes the requirement of betterment in it.

II. ADVANTAGES

1. **Automation of Repetitive Tasks:** ChatGPT can be used to automate repetitive task like if you have to perform certain task again and again and it can be done by ChatGPT.
2. **Cost Reduction:** It reduces the operational cost for the company by doing the work of an employee and reducing the cost for company, for e.g. if you have requirement of employee in company for writing and doing coding part that work can be handled by

ChatGPT it can write code by itself for you, this makes the job easy for the company.

3. **Time Management:** Time management can be improved with the help of ChatGPT, you create a schedule for certain work which has been assigned to you and you can complete the work within the given deadline.
4. **Resume Creation:** You can also make resume for the job which you are applying for with the help of it and get your work done easily.
5. **Humour Generation:** It can also give humour of its own by creating funny jokes on the topic you give it, for e.g.
I said it to make a joke on politician and people and it gives
Why don't politician play hide and seek with the people?
Because good luck hiding when everyone's looking for you to keep your promises!

I said it make joke on Pepsi and Coca-Cola
Why did Pepsi breakup with Coca-Cola?
Because it found someone a little less "soda-licious"!
6. **Understanding Complex Topics:** It can help you in understanding complex topics like Black hole, Wormhole in detail which is not available in detail in search engine and you can also get help for master's degree which you are pursuing, with the help of ChatGPT as topic for degree such as masters is not available on basic search engine like google, brave, Microsoft edge, etc.
7. **Mathematical Problem Solving:** It can be very useful in solving mathematical problem if you have doubt in the question and it gives step by step solution for the problem.
8. **Health and Wellness:** You can improve your health by making proper workout plans for you with the help of ChatGPT and it can also make diet meal plans, ChatGPT does not only provides help in educational, professional field but also provide help with regarding to our personal life including our health[6].
9. **Language Translation:** You can create content in multiple language in ChatGPT, for e.g.
You ask ChatGPT to write following sentence into Spanish
"Are you healthy and happy?"
"¿Estás saludable y feliz?"

If you ask it to write "what are you doing?" in Hindi
"तुम क्या कर रहे हो?" (for addressing a male) or "तुम क्या कर रही हो?" (for addressing a female).
It basically acts as a language translator
10. **Interview Preparation:** You can prepare for Job interview like it will give hypothetical situation and answer to it that how you should response.

11. **Social Media Content Creation:** It can also be used for social media i.e. for content creation in social media[8].
12. **Research Assistance:** It also provides you a research assistance i.e. it can provide a help in your project on which you are working.
13. **Language Learning:** You can also learn various languages with the help of ChatGPT.

Hypothetical Yearly Use of ChatGPT (2020-2024)

Estimated Global Uses (e.g., Number of Queries, Active Users, or Interactions)

| YEAR | ESTIMATED USE(in billions) |
|------|----------------------------|
| 2020 | 0.01 billion |
| 2021 | 0.1 billion |
| 2022 | 0.5 billion |
| 2023 | 1.2 billion |
| 2024 | 2.5 billion |

III. LIMITATIONS

1. **Lack of Common Sense:** It lacks common sense meaning that if you ask something to ChatGPT it will give you the information based on the data it consists and would not think whether the information is correct or not.
2. **Outdated Information:** It does not has recent information or data that means it has data on particular thing which was available a year ago, it cannot give information about things which occurred recently.
3. **Single Task Limitation:** One of the important limitation of ChatGPT is it cannot perform multiple task at the same time, if you want to get information about something and at same time you want perform mathematical operation you cannot perform both at same time.
4. **Creativity Deficit:** It also lacks creativity i.e. it cannot give its own ideas it will give you the ideas which are already present on the internet.
5. **Basic Information:** If you search for some information in it, it will give you the basic idea of the concept rather than explaining concept in detail, in depth information is not available.
6. **Potential Bias:** It can also give you biased answers because it gives answer based on the data which he has, so it does not check its credibility and can give you biased answers.
7. **Complex Calculation:** It cannot solve complex mathematical problem which consist of irrational

number like irrational number to the power of irrational number and give wrong answer to it.

8. **Incomplete Responses:** Sometimes it gives incomplete response, it writes answer to the question which you asked and stops in between writing response and leaves it incomplete.
9. **Contextual Accuracy:** Sometimes the answers given by ChatGPT are technically correct but are not accurate in terms of the context meaning that that concept that it explained might be correct but it is not entirely correct there might some fault or mistake in theory.
10. **High Computational Cost:** The computational cost and the power consumption is high it means that it require special kind of hardware and it also expensive in cost.
11. **No Image Analysis:** Its issue which is concerning is that the person cannot insert image in ChatGPT on which he wants the information.

IV. APPLICATION

1. **Cost Saving:** ChatGPT can be used for saving the cost of company as it can perform various task of the employee and avoiding additional hire of the employee in the company which makes it cost savior.
2. **Education and Training:** It can also be used for education and training as it can also act as a virtual tutor for people[11].
3. **Assistance For Disabilities:** It can also be helpful for individual with disabilities as it can as mode of interaction for them, it provides them Communication assistance, Information access, Task management, Learning support, Emotional support, Accessibility tools, Customizable interaction[9].
4. **Healthcare:** ChatGPT also has its application in healthcare, some of them are Patient education, Symptom checkers, Appointment scheduling, Medication management, Mental Health support, Health monitoring[1,2].
5. **Banking:** It can also be used in banking as it can provide customer support for FAQ's and it can also provide bank balance and transaction history[3,4].
6. **Marketing:** It can be used in clustering in marketing sector as it can tell about the customer that are likely to buy certain product or the customer about to cancel their subscription[10].
7. **Sales:** It used in sales as a recommendation system to boast the sale of the products by quantity.
8. **Financial Security:** It can used as a security in financial sector, like fraud detection and prevention, customer authentication, phishing detection, data protection, risk assessment[13,14].
9. **Prediction of Sales:** It can also be used in predicting the sales whether it will be profit or loss in the sales[7].

10. **Employee Efficiency:** It can used in companies for the efficiency of the employee by handling their routine and competitive task with the help of ChatGPT[3,4].

(2020-2024 Yearly Uses of ChatGPT in Healthcare)

| YEAR | ESTIMATED USES(e.g. no.of queries) |
|------|------------------------------------|
| 2020 | 10,000 |
| 2021 | 50,000 |
| 2022 | 1,20,000 |
| 2023 | 2,50,000 |
| 2024 | 4,00,000 |

Yearly Uses of ChatGPT in Marketing (2020-2024)

| YEAR | ESTIMATED USES(e.g. no.of compaigns) |
|------|--------------------------------------|
| 2020 | 20,000 |
| 2021 | 75,000 |
| 2022 | 150,000 |
| 2023 | 3,00,000 |
| 2024 | 5,00,000 |

V. SIMILAR TOOL

One of the similar tool with ChatGPT is Chatsonic as it has more features than ChatGPT. It can integrate with other word tools like Google Docs and wordpress. It can also assist you with ad writing, e-commerce content as it is more creative.

| FEATURES | PRESENT IN CHATSONIC | PRESENT IN CHATGPT |
|--------------------------------------|----------------------|--------------------|
| REAL-TIME WEB SEARCH | YES | YES |
| RESEARCH FOR ANY TOPIC IN-DEPTH | YES | NO |
| CAN CHAT WITH YOUR PDF AND DOCUMENTS | YES | YES |
| SUMMARIZE WEBPAGES | YES | YES |
| GENERATE HUMAN-LIKE VOICEOVERS | YES | NO |
| IN-BUILT FACT CHECK | YES | NO |
| IN-BUILT PLAGARISM CHECK | YES | NO |
| PREMIUM SUSCRPTION PRICE | \$12/MONTH | \$20/MONTH |

So comparing all the features of ChatGPT and Chatsonic has one can say that Chatsonic already has the near about all

features of ChatGPT but the features which are not present in ChatGPT are present in Chatsonic, so we can say that at present Chatsonic is the most efficient AI tool.

VI. CONCLUSION

ChatGPT is very powerful tool but lacks things like logical reasoning, solving complex mathematical problem, biased answering, image inserting, lack of current knowledge and these are some of the drawbacks of ChatGPT. Lack of current knowledge can be said to be the major drawback of the ChatGPT because of you are accessing some information which gets updated each year and you get the information about it which was published two years ago so that might create problem regarding validity, the data might not be valid upto date. After considering lack of knowledge, image inserting and solving problem regarding biased answering might resolve the major issues which are faced by ChatGPT and these are the issue which makes a space for modifications for better version of ChatGPT.

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