



NEW TRENDS IN TECHNOLOGY AND CHAT BOTS

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Abstract:

As a result of ChatGPT's (Conversational Generative Pre-training Transformer) popularity, the teacher is concerned that students might use it to do their homework and assignments. In this paper, we will discuss ChatGPT, the fields in which it is used, and how to make it useful in education.

Keywords: *Chat, Chat Bots, ChatGPT, ChatGPT, Conversational Generative Pre-training Transformer, Conversational, Generative, Pre-training, Transformer, AI, Artificial Inelegance.*

INTRODUCTION

In the tech industry, ChatGPT, OpenAI's new language processing AI, is making waves as of December 13, 2022. Businesses that use natural language processing are already hailing the advance model, which generates human-like text. [1]

A key skill in today's digital age is the ability to communicate effectively with chat bots, as the world changes and technology advances. [18]

Many believe that ChatGPT has the potential to revolutionize how we interact with technology because of its ability to understand and respond to a wide range of topics. In fields like customer support, online education, and market research, ChatGPT's advanced capabilities are expected to be an asset for companies. [1]

Among its key advantages is ChatGPT's ability to quickly adapt to new information. Due to this, it is capable of handling new topics and tasks without requiring extensive retraining. Its scalability makes ChatGPT a great solution for large-scale applications. [1]

Many have praised ChatGPT's advanced capabilities and ease of use, praising its overwhelmingly positive response so far. Despite its potential to be a major player in the world of natural language processing, ChatGPT remains to be seen how it is used in the coming years. [1]

This artificial intelligence (AI) language model is known as ChatGPT, which stands for Conversational Generative Pre-training Transformer. A wide range of applications, including chatbots, customer service, and virtual assistants, will benefit from its ability to generate highly coherent and fluent text responses. Various applications of ChatGPT are discussed in this paper, including current research and

development. [2] You need to understand five things in order to maximize ChatGPT's potential: [18]

1. How ChatGPT Works
2. What can ChatGPT do.
3. How to use ChatGPT
4. The best practices for using ChatGPT
5. The limitations of ChatGPT.

Let's start with the first two:

What is ChatGPT and how does it work?

To make it as simple as possible, ChatGPT is a special computer program called ChatGPT can:

1. Communicate with people as if they were human.
2. It can hold conversations.
3. Provide answers to questions.
4. Perform tasks as humans would.
5. A bunch of conversations were shown to ChatGPT by its creators, so it can talk like a human.

The program was shown numerous conversations so that it learned how to respond to certain situations and how humans communicate.

Thus, ChatGPT formulates a response based on what it has learned from those conversations.

As a result, ChatGPT is very good at conversing and answering questions.

There may be some commands that Chad GPT does not know or understand because it can only understand what it has been trained on. However, ChatGPT is a cool tool that helps you learn faster, and it's like being able to have a very smart friend who knows everything. [18]Go to chat.openai.com after verifying your phone number. [18] Type how to make lemonade?

Here is a simple recipe for making lemonade:

Ingredients:

1. 1 cup freshly squeezed lemon juice (about 5-6 lemons)
2. 1 cup sugar
3. 4 cups cold water
4. Ice cubes
5. Sliced lemons and fresh mint (optional)

Instructions:

1. In a large pitcher, mix together the freshly squeezed lemon juice and sugar until the sugar is completely dissolved.
2. Add the cold water and stir well.
3. Taste the lemonade and adjust the sweetness if needed.
4. Chill the lemonade in the refrigerator for at least 30 minutes before serving.
5. Fill glasses with ice cubes and pour the chilled lemonade into the glasses.
6. Garnish with sliced lemons and fresh mint, if desired.
7. Enjoy your delicious homemade lemonade!

Probably you can get a better answer using Google.

Let's try something more advanced:

Write a recommendation letter for Mr. Jon Doe, who was in my Java class during Fall 2022 and is applying for a programming position.

Dear Hiring Manager,

I am writing to recommend Mr. Jon Doe for the programming position at your company. Mr. Doe was a student in my Java class during the Fall 2022 semester, and I can confidently say that he was one of the top students in the class.

Throughout the course, Mr. Doe demonstrated an exceptional understanding of Java programming concepts and was always eager to learn more. He consistently performed well on assignments and exams, and his work showed a high level of attention to detail and problem-solving ability.

What impressed me most about Mr. Doe was his passion for programming. He frequently asked insightful questions and actively participated in class discussions, showing a deep interest in the subject matter. In addition to his technical skills, Mr. Doe also demonstrated excellent communication and teamwork skills, collaborating effectively with his classmates on group projects.

Overall, I believe that Mr. Doe would be an excellent fit for the programming position at your company. His strong technical skills, passion for programming, and ability to work well with others make him an ideal candidate for the position. I highly recommend him without reservation, and I am confident that he will be an asset to your team.

Please do not hesitate to contact me if you have any further questions or require additional information.

Sincerely,

[Your Name]

Let's make this even more advanced:

Write 10 versions of recommendation letters for my Java class students during Fall 2022 who are applying for a programming position. We will get 10 different versions of the recommendation letter.

RESEARCH METHODS

This research is a qualitative research using case study and survey methods. The population in this study are students and teachers in schools that apply Islamic education in the digitalization era. The sample in this study was students and teachers who were selected by purposive sampling. Data collection techniques used in this study were observation, interviews and questionnaires. Observations were made to observe teaching and learning activities in schools that were the object of research. Interviews were conducted to obtain deeper information from teachers and students who were the object of the research. Questionnaires were given to students and teachers to find out their opinions about implementing Islamic education in the digitalization era. Data obtained from observations, interviews, and questionnaires were analyzed using qualitative descriptive analysis techniques. The analysis results are grouped based on the categories obtained from the research results.

RESULTS AND DISCUSSION

Best Practices for using ChatGPT.[2]

For effective and responsible use of ChatGPT, here are some guidelines:

Provide clear and specific prompts:

In order to ensure that the responses are relevant and useful, it is important to use ChatGPT with clear and specific prompts.

Check and verify the responses:

In spite of the fact that ChatGPT is capable of generating responses, we need to

make sure the responses are accurate and relevant before relying on them.

Avoid sensitive or controversial topics:

As a result of its training data, ChatGPT can generate responses that include biases or stereotypes. Thus, sensitive and controversial topics should be avoided in order to avoid potentially harmful or offensive reactions.

Use ChatGPT as a supplement, not a replacement:

However, it should not be considered a replacement for human expertise or critical thinking. ChatGPT can be useful for gathering responses or providing information.

Regularly update and refine the training data:

ChatGPT must regularly update and refine training data to improve accuracy and relevance of responses.

Be transparent and ethical:

A transparent and ethical use of ChatGPT is important, as is ensuring a responsible and ethical use of it.

The overall goal of ChatGPT is to provide information in various contexts by following the above best practices.

ChatGPT Limitations:[2]

Even though ChatGPT is a sophisticated language model, it does have some limitations. Some of the limitations include:

Limited knowledge:

ChatGPT derives its knowledge from the data it has been trained on. As a result, it may not be able to answer questions without the data that it has been trained on.

Biases:

Despite its inherent biases, ChatGPT may have inherent biases based on the data that has been used to train it. A potentially harmful response may result, as well as the perpetuation of stereotypes.

Lack of contextual understanding:

Even though ChatGPT can generate coherent responses, it may not always be able to understand the conversation's context. Nonsensical or irrelevant responses can result from this.

Inability to reason:

Despite its ability to respond based on training data patterns, ChatGPT cannot think critically or reason.

Overreliance on training data:

As a result of its training data, ChatGPT responds in a predictable way. This means that it might have trouble adapting to new or unexpected situations.

Limited ability to generate creative responses:

In spite of the fact that ChatGPT is capable of generating coherent responses, it may not be capable of generating imaginative or creative responses. In summary, while ChatGPT is a powerful language model, it is necessary to understand its limitations in order to use it responsibly and effectively.

Literature Survey:

Radford et al. introduced the Generative Pre-trained Transformer (GPT) in a paper they released on June 11, 2018, entitled "Improving Language Understanding by Generative Pre-Training". [14]

The best neural NLP models currently utilize supervised learning from large amounts of manually labeled data. It was prohibitively expensive and time-consuming for extremely large models to be trained due to the reliance on supervised learning; [14][15]

Due to a lack of corpus-building text for many languages (such as Swahili or Haitian Creole), such models have difficulty translating and interpreting these languages. [15]

In contrast, GPT's "semi-supervised" approach involved two stages: a pre-training phase in which initial parameters were set using a language modeling objective, followed by a phase of discriminative "fine-tuning" in which they were adapted to a target task by a supervised discriminative process.[14]

Since ChatGPT's release in 2019, considerable research has been conducted on it. In addition to the technology's architecture, training process, and evaluation metrics, the technology has been extensively studied from multiple perspectives. The GPT-3 language model was proposed by Brown et al. in 2020 and contains 175 billion parameters for generating unprecedented quality and versatility of text. Furthermore, studies have examined the ethical implications of using ChatGPT, including bias and misuse (Hao, 2020; Bender et al., 2021).[2][3]

Healthcare, finance, and education have also benefited from ChatGPT. Several research groups have implemented chatbots to provide mental health support and financial advice, including Bernal-Rusiel et al., 2020, and Niu et al., 2021. To provide personalized learning experiences in education, Ramesh et al., 2021 have developed a ChatGPT-based learner-centered chatbot. [2][7] "Nobody is prepared for how AI will transform academia." [19]

Humanities, interdisciplinarity, and higher education more broadly will be transformed and challenged by recent and sudden improvements in AI text-generation systems, driven by large language models.[20]

GPT Versions			
	Architecture	Parameter count	Training data
GPT-1	12-level, 12-headed Transformer decoder (no encoder), followed by linear-softmax.	0.12 billion	BookCorpus:[16] 4.5 GB of text, from 7000 unpublished books of various genres.
GPT-2	GPT-1, but with modified normalization	1.5 billion	WebText: 40 GB of text, 8 million documents, from 45 million webpages upvoted on Reddit.
GPT-3	GPT-2, but with modification to allow larger scaling.	175 billion	570 GB plaintext, 0.4 trillion tokens. Mostly CommonCrawl, WebText, English Wikipedia, and two books corpora (Books1 and Books2).

Table 1- Comparison Between GPT Versions [17]

Our Review:

We have tested the ChatGPT the free version and paid version, we found that it

was rebuts in the following:

1. Writing code.
2. Fixing errors in the code.
3. Writing code from an algorithm in many programming languages.
4. Writing different versions of recommendation letters.
5. Explaining the uses of many prescription medications in few seconds.
6. Making a flow chart in a text format
7. Correcting student discussions.
8. Writing poems and songs.

Here is an example:

Write a song about Coco the macaw parrot and Nana the scarlet parrot.

Here is the result:

(Verse 1)

Coco the macaw, with feathers bright and bold
Nana the scarlet, with colors red and gold
Two birds of beauty, in a world of their own.
Together they soar, flying high, never alone.

(Chorus)

Coco and Nana, two hearts as one
A love story, that's only just begun
They sing and dance, play and fly
Together they'll soar, into the sky.

(Verse 2)

Coco loves to talk, and Nana loves to sing.
Their voices blending, like the colors of the wing.
A love so true, it fills up the air
Two birds in love, flying without a care.

(Chorus) Coco and Nana, two hearts as one

A love story, that's only just begun
They sing and dance, play and fly
Together they'll soar, into the sky.

(Bridge)

Coco and Nana, a love that's so rare.
Their bond is strong, like the love that we share.
They fly and play and sing their song.
Together they'll fly, forever strong.

(Chorus)

Coco and Nana, two hearts as one
A love story, that's only just begun
They sing and dance, play and fly.
Together they'll soar, into the sky.

(Outro)

Coco and Nana, two birds of love
Their bond unbreakable, like wings above
A love so true, it fills up the air
Two birds in love, flying without a care.

CONCLUSION

It is possible to use ChatGPT for a wide variety of applications. Despite the advancements in NLP and AI, the technology may see even further advancements in the future. There are many benefits to ChatGPT, but it also has some challenges, including privacy issues, bias, and misuse. These challenges will need to be addressed as technology advances. [2]

ChatGPT has caught educators off guard. It has allowed students to procrastinate and easily submit essays generated by ChatGPT. To prevent students from cheating, exams should be taken on paper or with a computer software that prevents cheating, such as lockdown browser.

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