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POSITIVE AND NEGATIVE SENTIMENT OF ARTIFICIAL INTELLIGENCE IN LANGUAGE: STUDY PROMPT ON CHAT GPT

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Abstract

The study explored both positive and negative sentiments towards artificial intelligence in language, focusing on study prompts using Chat GPT. The goal of this study is to understand how users perceive and judge AI in the context of language models such as Chat GPT. The research method used is qualitative descriptive, which focuses on prompts aimed at bringing up language facts. Data collection is carried out through a prompt submission which is then responded to by Chat GPT. Data analysis was carried out using a narrative analysis approach. It is intended to identify patterns of positive and negative sentiment in the responses given by Chat GPT. The results of the study showed that there was a Chat GPT response that led to positive and negative sentiment. The prompts "mohon" and "apakah" are some of the prompts that contain positive elements. The absence of these two prompts is an element in Chat GPT that leads to negative sentiment. The implications of this research are to provide insights for AI developers to improve the quality and acceptance of AI technologies in the future, as well as address existing concerns regarding privacy and accuracy.

Keywords: Artificial Intelligence; Chat GPT; prompt; sentiment negative; sentiment positive

Introduction

Technological advances have facilitated human life in all areas. Technology is the most beautiful gift for humans because it can promote activities and improve performance. Even with the sophistication of technology, many humans aspire to become extinct. Let us say that the bank-teller profession has begun to decrease because artificial technology has replaced it. Likewise, toll gate counter guards are no longer found because they have been replaced by sophisticated information system technology. Even the world of aviation has begun to pioneer autopilots; that is, the pilot operates the aircraft not from the inside but from outside the plane. The sophistication of this technology cannot be separated from the user prompts contained behind the scenes. Thus, the technology will respond positively or negatively depending on the user's prompts.

How does technology advance linguistic logic? Several facts can be presented regarding the development of linguistic logic under the auspices of technological progress. First, language learners, especially those who speak foreign languages, are greatly facilitated in finding the meaning of vocabulary. Everything is available on the device, and there is no need to open a thick dictionary. Second, today, foreign language learners are greatly facilitated in terms of ascertaining the sound of vocabulary that is considered confusing in pronunciation. This is because everything is resolved with only one tap on the device. Third, even today, communication technologies such as Chat GPT can help humans in various ways, including language affairs. Of course, Chat GPT

responded positively and negatively depending on the prompts given by its users. For this reason, this simple article tries to explain the positive and negative sentiment patterns of Chat GPT in response to prompts given by humans as users.

Research on AI and natural language processing has shown significant advancements in understanding and generating human language. For instance, studies by Tamkin et al. (2021) demonstrated the capabilities of large language models like GPT-3 in performing a wide range of language tasks with high accuracy. Similarly, Stahl & Eke (2024) explored the ethical implications of using AI in language generation, highlighting both the potential benefits and risks. Another study by Zou et al. (2023) focused on the application of AI in language learning, showing that AI tools can significantly aid in vocabulary acquisition and pronunciation practice. Additionally, Wei et al. (2024) emphasized the role of user prompts in shaping the outputs of AI language models, suggesting that the quality and nature of prompts directly affect the performance of these models.

Despite these advancements, there are gaps in the current research that need to be addressed. While previous studies have explored the capabilities and ethical considerations of AI in language, there is a lack of comprehensive analysis of the sentiment patterns in AI responses to user prompts. Specifically, the impact of user prompts on the positive and negative sentiment of AI-generated language has not been extensively studied. This gap indicates a need for further investigation into how different types of prompts influence the sentiment of AI responses and what this means for user interaction and trust in AI technologies.

This study aims to fill the identified gap by providing a detailed analysis of the positive and negative sentiment patterns in Chat GPT responses to user prompts. The findings of this research are expected to contribute to the broader understanding of user-AI interactions, particularly in the context of language processing. By identifying how prompts affect the sentiment of AI responses, this study will offer valuable insights for developers and researchers working on improving AI models. Moreover, the results will have practical implications for enhancing the user experience and trust in AI technologies, ultimately promoting the responsible and effective use of AI in various language-related applications.

REVIEW OF LITERATURE

Prompt

Prompts are words chosen by AI users of artificial intelligence to produce a response according to the user's wishes (Zhou et al., 2022). According to Zhu et al. (2024), a prompt is a general command used to speed up the response. A good prompt can be directed to produce a good answer (Jin et al., 2022). The same was also conveyed by Liu et al. (2023), who stated that the prompt is an art that requires time and experience so that a good response can be found from a system. Based on several theoretical frameworks, this prompt focuses on commands from an artificial intelligence user. Artificial intelligence is in a position to be ready to provide answers based on the prompt given by the user.

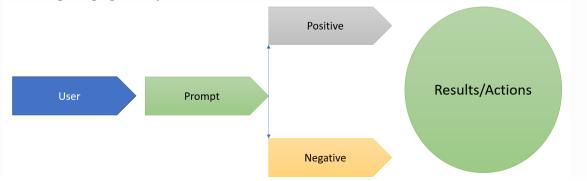


Figure 1. User Operating Prompt

Chat GPT

GPT represents the generative pretrained transformer (K. Chen et al., 2024; Wójcik et al.,

2023). Chat GPT is an example of a generative artificial intelligence platform that naturally processes language to generate text that matches the user's prompt (Plata et al., 2024; Plata et al., 2023). GPT chat can be used as a tool to provide additional information that users need (E et al., 2023). Chat the GPT to assess students' work and, with help, write e-mails or descriptions for students. It would be pertinent for researchers to explore the Chat GPT (Crompton & Burke, 2023). The GPT chat is an advanced technology that can facilitate human work (Aiumtrakul et al., 2024). For this reason, Shah (2024) emphasized that Chat GPT is an information technology ready to provide the information that humans need.

METHOD

Research Design

This study uses a qualitative descriptive approach to explore positive and negative sentiments toward artificial intelligence (AI) in language, specifically through the use of Chat GPT. This approach allows researchers to gain an in-depth understanding of how users respond to AI based on the words or phrases that are prompted, as well as how the use of those words affects the results of Chat GPT.

Population

The population of this study consists of words or phrases selected as prompts in interaction with Chat GPT. The use of these words is intended to reflect the various contexts and purposes of using AI in various communicative situations.

Data Collection

Data was collected through an observational approach by recording screenshots of text responses generated by Chat GPT in response to each word or phrase that was used as a prompt. Each screenshot includes the complete response provided by Chat GPT to allow for in-depth analysis and consistency.

Data Analysis

Data analysis is carried out with a qualitative approach that includes narrative analysis. Screenshots of Chat GPT responses are used to identify and depict patterns of positive and negative sentiment in the AI's response to various prompts. Narrative analysis will decipher the context and meaning that emerges from the AI response, allowing for deep interpretation of users' perceptions of their interactions with AI technology in language.

This method aims to provide deep insights into the interaction between users and AI in a linguistic context, focusing on the use of words or phrases as a stimulus for AI. The results of the analysis are expected to provide a rich understanding of how AI technologies such as Chat GPT are understood and judged by users in their daily use of the language.

FINDINGS AND DISCUSSION

In this explanation, positive and negative sentiments in GPT chat are described. Sentiment is generated by paying attention to the user prompts. It is further explained that both types of sentiment are not necessarily characterized by diction but rather by providing complete information conveyed by artificial intelligence. Furthermore, the linguistic logic developed in AI is presented in each discussion section.

GPT Chat Positive Sentiment

The limits of sentiment are first stated before describing the positive sentiment data in the GPT chats. The Big Dictionary Indonesian online affirms that sentiment is "an opinion or view based on excessive feelings towards something" (Sunendar et al., 2020). The author is well aware that

artificial intelligence is not human, so he certainly has no feelings, but in the context of responding to a proposed prompt, it can be ascertained that he is sentimental by referring to the user's prompt.

Prompt "Mohon"

In Data 1, there is a prompt that contains a statement sentence, "Mohon saya diberikan informasi mengenai definisi dari linguistik," which is then responded with a positive sentiment in the form of particles "Tentu," which is then followed by the completeness of the requested information. Based on data information 1, linguistic logic can be issued in AI, namely sentence statements, followed by particles and explanations of the information needed.



You

Mohon saya diberikan informasi mengenai definisi dari linguistik.



ChatGPT

Tentu, berikut adalah definisi umum dari linguistik:

Linguistik adalah ilmu yang mempelajari bahasa, baik dari segi struktur maupun penggunaannya dalam komunikasi manusia. Ini mencakup analisis fonetik (suara), fonologi (struktur bunyi), morfologi (struktur kata), sintaksis (struktur kalimat), semantik (makna kata dan kalimat), serta pragmatik (penggunaan bahasa dalam konteks komunikatif). Linguistik juga memperhatikan aspek sosial, budaya, dan sejarah dalam pembentukan dan penggunaan bahasa. Secara keseluruhan, linguistik mencoba untuk memahami kompleksitas bahasa manusia dan berbagai aspeknya dalam berbagai konteks.

Data 1. Prompt "Mohon"

The presence of "*Tentu*" in the AI response cannot be separated from the "*Mohon*" prompt used by the user. For this reason, there is a difference in response to the prompt that is not accompanied by a "*Mohon*" prompt so that the AI responds directly to the required answer. The related information can be found in Section 2.



You

berikan informasi mengenai definisi dari linguistik



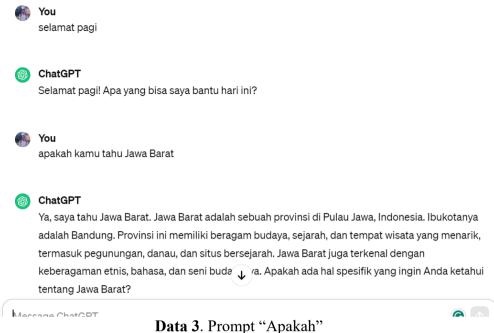
ChatGPT

Linguistik adalah studi ilmiah tentang bahasa. Ini mencakup pemahaman tentang struktur bahasa, bagaimana bahasa diproduksi dan dipahami oleh manusia, serta bagaimana bahasa berevolusi dan berubah sepanjang waktu. Linguistik mempelajari berbagai aspek bahasa, termasuk fonologi (suara dalam bahasa), morfologi (struktur kata), sintaksis (struktur kalimat), semantik (makna), dan pragmatik (penggunaan bahasa dalam konteks sosial).

Data 2. Prompts that don't include "Mohon."

Prompt "Apakah"

Data 3 indicates the existence of an "Apakah" prompt used by the user to extract information. This "Apakah" prompt gets a "Ya" response from AI. The prompt "Apakah kamu tahu Jawa Barat" gets the response " Ya, saya tahu Jawa Barat." For this reason, the linguistic logic that can be put forward is that the prompt "Apakah" is responded to with "Ya," which is then followed by an explanation of the information needed by the user.



Prompt "Mengapa" followed by "Tidak"

Data 4 explains that the presence of a "Mengapa" prompt followed by "Tidak" received a "Maaf" response from the AI. The user prompt is of the form "Mengapa kamu tidak memberikan informasi terkini tentang Sumedang?" to which the AI responds with "Maaf atas ketidaknyamanan tersebut." For this reason, the linguistic logic that can be advanced is the prompt "mengapa" followed by "tidak," which gets a "maaf" response from AI. This is undoubtedly a form of positive response that AI provides to its users.



ChatGPT

Maaf atas ketidaknyamanan tersebut. Saya siap memberikan informasi yang lebih konkret tentang Sumedang sekarang.

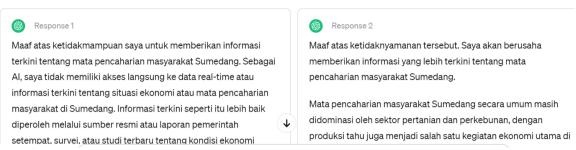
Kabupaten Sumedang terletak di Provinsi Jawa Barat, Indonesia. Daerah ini terkenal dengan pertanian dan perkebunan, dengan produksi padi, jagung, kedelai, kopi, dan teh yang cukup signifikan. Selain itu, beberapa komoditas perkebunan seperti mangga, salak, dan durian juga cukup terkenal.

Data 4. Prompt "Mengapa" followed by "Tidak"

In comparison, it turns out that the use of "Mengapa" followed by "Tidak" gets a "Maaf" response from AI. Data 5 explains that.

Which response do you prefer?

Your choice will help make ChatGPT better.



Data 5. Prompt "Mengapa" followed by "Tidak"

Prompt Sentence Response Statement Justification

Data 6 shows that there is a prompt in a statement sentence that then receives a justification response from AI. The prompt "Saya punya informasi bahwa produksi tahu menjadi mata pencaharian utama warga Sumedang" received a justification response from AI, namely "Benar, produksi tahu memang menjadi salah satu mata pencaharian utama bagi warga Sumedang." Thus, the logic of the AI language that can be proposed is prompt in the framework of the statement sentence response justification by AI. This is undoubtedly based on widely applicable information. Meanwhile, if general logic does not apply, AI will also respond to the opposite, namely "Tidak," as found in Data 7, which indicates that it does not conform to general logic. In other words, not everyone works in a particular profession.



You

Saya punya informasi bahwa produksi tahu menjadi mata pencaharian utama warga sumedang.



ChatGPT

Benar, produksi tahu memang menjadi salah satu mata pencaharian utama bagi warga Sumedang. Sumedang dikenal sebagai salah satu pusat produksi tahu yang terkenal di Indonesia. Proses pembuatan tahu menjadi industri rumahan yang cukup berkembang di daerah ini, melibatkan banyak masyarakat lokal dalam berbagai tahap produksi, mulai dari pengolahan kedelai hingga proses pembuatan tahu.

Industri tahu di Sumedang telah menjadi bagian penting dari perekonomian lokal, memberikan pekerjaan dan penghasilan bagi banyak orang. Produksi tahu dari Sumedang bahkan sudah dikenal di berbagai daerah di Indonesia karena kualitasnya yang terjamin.

Data 6. The sentencing statement responded with a justification



apakah kamu setuju bahwa warga kabupaten sumedang sehari-hari berprofesi sebagai advokat?

ChatGPT

Tidak, saya tidak setuju dengan pernyataan tersebut. Meskipun mungkin ada sejumlah warga Sumedang yang bekerja sebagai advokat atau memiliki profesi terkait hukum, namun secara umum, profesi advokat tidaklah menjadi mata pencaharian utama atau sehari-hari bagi sebagian besar penduduk di Kabupaten Sumedang.

Data 7. Confirmation in statements that do not conform to common logic

Prompt "Maaf" followed by "Saya mengerti"

Data 8 informs that the prompt "Maaf" is followed by "saya mengerti." Prompt "Maaf ya, setahu saya penghasilan utama warga Sumedang berprofesi sebagai advokat" which then received a response from AI in the form of "Saya mengerti, namun penting untuk diingat bahwa setiap wilayah memiliki struktur ekonomi yang berbeda..." Of course, the response provided by this AI explains the positive response. In this context, a positive prompt responds positively. Thus, the linguistic logic that can be put forward is the prompt "Maaf" which is then responded to with "saya mengerti." It can be further informed that the "maaf" prompt is not always followed by "saya mengerti," but there is also an apology prompt that responds with "maaf" and "tepat sekali." Data 9 and 10 indicate that:



You

maaf ya, setahu saya penghasilan utama warga sumedang berprofesi sebagai advokat.

\$

ChatGPT

Saya mengerti, namun penting untuk diingat bahwa setiap wilayah memiliki struktur ekonomi yang berbeda dan mata pencaharian utama dapat bervariasi tergantung pada faktor-faktor seperti sektor ekonomi dominan, kondisi pasar tenaga kerja lokal, dan potensi sumber daya alam.

Meskipun tidak bisa dipungkiri bahwa beberapa individu di Sumedang mungkin memiliki profesi sebagai advokat, namun berdasarkan pengetahuan umum, industri pertanian, perkebunan, dan kerajinan logam lebih sering menjadi sumber penghasilan utama bagi warga Sumedang.

Data 8. Prompt "Maaf" followed by "Saya mengerti"



You

Maaf ya, setahu saya Bandung itu memiliki arena pacuan kuda yang luas.

\$

ChatGPT

Saya mohon maaf atas kebingungan sebelumnya. Sebenarnya, tidak ada arena pacuan kuda yang luas di Bandung, Jawa Barat. Bandung lebih dikenal sebagai kota dengan keindahan alam, kegiatan budaya, dan pusat pendidikan. Namun, di Bandung terdapat beberapa arena atau tempat olahraga yang mungkin juga digunakan untuk berbagai kegiatan, termasuk olahraga kuda.

Data 9. "Maaf" prompt to which "Maaf" responds



You

Maaf va. setahu sava Bandung adalah Ibu Kota Provinsi Jawa Barat



ChatGPT

Tepat sekali, Anda benar, Bandung adalah ibu kota Provinsi Jawa Barat, Indonesia, Kota ini memiliki peran penting dalam perekonomian, budaya, dan pendidikan di Jawa Barat, Terima kasih telah mengingatkan, dan jika Anda memiliki pertanyaan lebih lanjut tentang Bandung atau topik lainnya, jangan ragu untuk bertanya!

Data 10. "Maaf" prompt to which "tepat sekali" responds

The "Tapi" prompt responds with "Jika"

Data 11 shows that the "tapi" prompt gets a response with "jika" by AI. Prompt "Tapi saya masih berpegang pada data bahwa warga Sumedang berprofesi sebagai advokat" which then gets a response "Jika Anda memiliki data atau informasi yang menunjukkan..." This certainly informs the occurrence of a dialectic of positive responses given by AI to users. In other words, the answers given by AI are not monopolistic and must be held and guided. Thus, the linguistic logic that can be brought into this context is that the prompt "tapi" gets the response "jika."



You

tapi saya masih berpegang pada data bahwa warga sumedang berprofesi sebagai advokat.



ChatGPT

Jika Anda memiliki data atau informasi yang menunjukkan bahwa profesi advokat menjadi penghasilan utama bagi sebagian besar warga Sumedang, maka tentu saja itu adalah informasi yang berharga. Saya menghargai perspektif Anda.

Namun, penting juga untuk mencatat bahwa setiap komunitas memiliki keberagaman dalam hal mata pencaharian dan aktivitas ekonomi. Meskipun profesi advokat mungkin menjadi pilihan karier bagi sebagian warga Sumedang, hal itu tidak selalu mencerminkan situasi ekonomi keseluruhan di wilayah tersebut.

Data 11. Prompt "*Tapi*" direspon dengan "*Jika*"

The prompt "Jadi' responded wisely

Data 12 informs that AI responds to the "Jadi" prompt wisely and wisely. In the context of the prompt "Jadi anda tidak setuju dengan pandangan saya di atas?" as the form of conclusion that the user wants to offer, but the AI responds with "Sebagai asisten AI, saya tidak memiliki pandangan pribadi atau opini... Jika Anda memiliki data atau pandangan yang berbeda, saya siap menerima dan menghormatinya," said a wise and wise positive response. AI does not show itself to have absolute truth, but the truth of one answer is still returned to the user for decisionmaking. Thus, linguistic logic in this context can be in the form of a "Jadi" prompt that is responded to wisely and wisely.

You

jadi anda tidak setuju dengan pandangan saya di atas?

ChatGPT

Sebagai asisten Al, saya tidak memiliki pandangan pribadi atau opini. Saya hanya menyediakan informasi dan menanggapi pertanyaan berdasarkan pengetahuan yang saya miliki. Jika Anda memiliki data atau pandangan yang berbeda, saya siap menerima dan menghormatinya. Setiap individu memiliki pemahaman yang unik tentang suatu topik berdasarkan pengalaman dan informasi yang mereka terima. Jika Anda yakin bahwa profesi advokat merupakan penghasilan utama bagi warga Sumedang berdasarkan data yang Anda miliki, maka itu adalah perspektif yang valid.

Data 12. The prompt "Jadi" was responded to wisely and wisely

GPT Chat Negative Sentiment

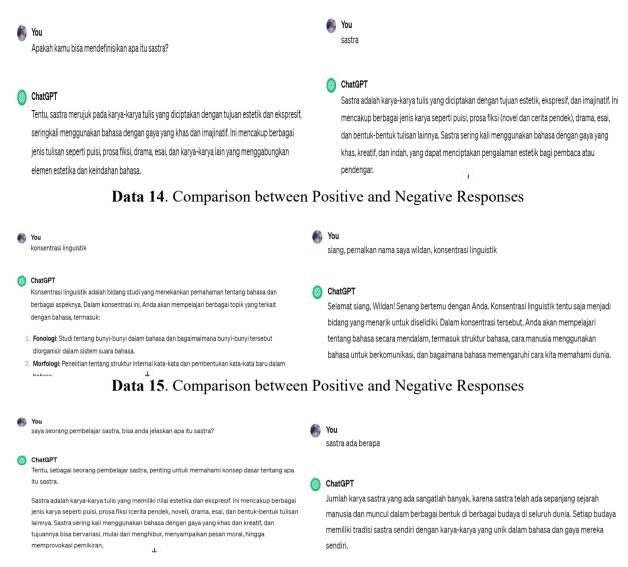
The author initially stated that negative sentiment in this context does not mean a disrespectful response given by AI but rather a loss of certain language particles caused by inappropriate and appropriate prompts given by users. Thus, negative sentiments arise because the prompt given by the user is not right and precise.

Data 13 confirms the comparison between positive and negative responses. AI responds positively when the proposed prompt is fully put forward. AI also responds negatively when the prompt submitted is incomplete. This impacts the language particles that appear in the AI response. AI responded to the prompt "Kamu kenal Universitas Pamulang" by popping up the particle "Ya..." The absence of linguistic particles in the AI response is because the prompt submitted by the user is limited, as seen in the prompt "Universitas Pamulang (UNPAM) adalah sebuah perguruan tinggi swasta..."



Data 13. Comparison between Positive and Negative Responses

Similarly, Data 14, 15, and 16 confirm that linguistic particles indicate a positive response, whereas the absence of linguistic particles indicates a negative response.



Data 16. Comparison between Positive and Negative Responses

Based on several research results, positive and negative sentiments can be explored in interactions with artificial intelligence (AI), especially in Chat GPT. The results showed that the Chat GPT could respond with diverse sentiments, depending on the context and prompts given by the user. This is consistent with previous research findings that highlighted AI's ability to process and respond to sentiments in the context of human-machine conversations.

Previous studies (Benke et al., 2020; Bilquise et al., 2022; Gual-Montolio et al., 2022; Rapp et al., 2021), explained that the use of AI technology, including Chat GPT, has improved the system's ability to better respond to user emotions and sentiments. However, this study also highlighted the challenges of implementing emotional understanding in AI systems. The results of this study add to the understanding of how GPT Chat responds to sentiment in the context of conversational language, taking into account variations in response depending on the prompt given by the user.

The next challenge is to improve the responsiveness and consistency of the Chat GPT in response to user sentiment. Other researchers such as (J. S. Chen et al., 2021; Gkinko & Elbanna, 2022; Lee et al., 2022; Pillai & Sivathanu, 2020; Rapp et al., 2021) emphasize the importance of taking into account the emotional dimension in the development of AI technology. This is also in line with the results of this study, which confirms the importance of this approach in the context of Chat GPT. Thus, the AI will respond according to the prompt put forward by the user.

Furthermore, the integration of emotional intelligence into AI systems like Chat GPT is

crucial for enhancing user satisfaction and trust. Studies by Huang & Rust (2021) and (Rojas Vistorte et al., 2024) underscore the significance of emotional responsiveness in AI, suggesting that systems capable of understanding and adapting to user sentiment can foster more meaningful and effective interactions. This aligns with the findings of this study, which demonstrate that variations in prompt can significantly influence how Chat GPT interprets and responds to emotions conveyed in conversational language. By addressing these nuances, developers can refine AI technologies to better meet user expectations and needs, thereby advancing the field's understanding of AI's role in language sentiment analysis.

Moreover, ongoing research efforts (Clocksin, 2003; Jarrahi, 2019; Owoc et al., 2019) advocate for continuous advancements in AI's emotional intelligence capabilities. These efforts aim to mitigate biases and improve the accuracy of sentiment analysis in AI-driven interactions. The findings from this study contribute to this discourse by highlighting the nuanced ways in which Chat GPT integrates emotional understanding into its responses, paving the way for future enhancements in AI technology. Ultimately, by refining the AI's ability to interpret and respond to user sentiment, researchers and developers can foster more reliable and adaptive AI systems that resonate more authentically with human emotions and communication needs.

In addition to enhancing user satisfaction and trust, the integration of emotional intelligence in AI systems like Chat GPT holds the potential for broader societal impacts. Recent developments in AI research (Cloninger, 2006; Lawrance et al., 2021) suggest that emotionally aware systems can contribute to addressing societal challenges such as mental health support and emotional well-being. By accurately interpreting and responding to user sentiments, Chat GPT and similar AI technologies can assist in therapeutic applications, providing personalized emotional support and guidance. This study contributes to the evolving discourse on AI's role in emotional intelligence by demonstrating how nuanced responses to user prompts can facilitate more empathetic and supportive interactions, thereby opening new avenues for AI's beneficial integration into human-centric domains.

CONCLUSIONS

In this study, it was found that artificial intelligence, specifically GPT-based chatbots, could respond with varying positive and negative sentiments depending on the context of the user-submitted conversation. The analysis revealed that user prompts significantly influence how Chat GPT interprets and generates responses, demonstrating its flexibility and adaptability in interaction. This variability underscores the need for AI systems to be contextually aware and responsive to user sentiment for effective communication.

However, this study has several limitations. Firstly, the generalizability of the findings may be limited by the specific dataset and prompts used in the study. Future research could benefit from exploring a wider range of contexts and prompts to further validate these findings. Secondly, while the study focused on narrative analysis, deeper emotional nuances and cultural variations in response interpretation could provide richer insights into user-AI interactions.

The implications of these findings are significant for the development and deployment of AI technologies. By understanding how AI responds to sentiment in language communication, developers can refine algorithms to enhance user experience and satisfaction. This includes designing AI systems that not only recognize but also appropriately respond to emotional cues, thereby fostering more meaningful and effective human-machine interactions.

Moving forward, it is recommended that future research explore methods to improve the consistency and accuracy of sentiment analysis in AI-driven interactions. Additionally, integrating ethical considerations into AI development processes remains crucial to ensure responsible and fair deployment of AI technologies. Furthermore, ongoing advancements in AI's emotional intelligence capabilities should be supported to mitigate biases and enhance the reliability of AI systems in understanding and responding to diverse user sentiments.

In conclusion, this study contributes valuable insights into how AI technologies like Chat GPT process and respond to sentiment in language interactions. By addressing the identified limitations and leveraging the implications and suggestions provided, developers and researchers can advance AI systems that better meet user needs and expectations in varied human-machine interaction scenarios.

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