CHAT GPT FACTSHEET

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ChatGPT is one of several Large Language Models (LLMs) that have recently been introduced to the public and are steadily gaining in popularity. LLMs are a type of artificial intelligence (AI) technology that are "trained" on vast amounts of data allowing them to simulate human conversation. Once trained, the model can be refined, and can continue to learn over time without being specifically programmed to. Other LLMs include Bing Chat, Google Bard, Meta's Galactica, Anthropic's Claude and Microsoft's Co-Pilot. ChatGPT remains the most popular and most studied of this group.

Pros:

- ChatGPT can learn subtleties of human language and respond in a natural and logical manner.
- Because training includes a number of languages, ChatGPT can translate easily, and maintain cultural nuances in the process.
- It is able to summarize reports, articles and papers, and tailor the response to a given audience (i.e., a high-school student, a 5-year-old, an adult, a professor, etc.).
- For those with limited English skills who must use the language in correspondence and written communication, ChatGPT can help correct grammar and usage, and make the writing flow easily. Those with learning disabilities can also benefit in this way.
- ChatGPT can save time with course curriculum preparation, assist in research manuscript preparation, analysis of results, and other writing tasks.
- Most LLM systems are free, although ChatGPT has a fee-based extended service.

Cons:

- The models are trained to detect patterns of speech and respond appropriately; they are not trained to recognize truth and cannot understand language and its relationship to society. This raises issues of ethics, bias, copyright and reliability.
- ChatGPT and other LLMs "hallucinate", often making up answers and citations if they are not able to give a correct response. The answers may appear to be credible and relevant, but in reality, are completely false.
- The models are created by private companies and are not transparent. OpenAI released ChatGPT without sharing information about its architecture, training models and methods, hardware or dataset construction.
- Because of the huge database sets used to train the LLMs, it is impossible to know what resources they are using to form their responses. This also raises concerns of copyright infringement and plagiarism, making the output unreliable for research use.
- The size of the training databases – likely in excess of 45 terabytes – indicates a large carbon footprint and potential impact on the environment.
- LLMs can pick up biases that are inherently part of their wide scope of training data. They are not able to apply social filters, which can result in perpetuating stereotypes and the spread of harmful, hurtful and false information.

- While trained on various languages, most research in the fields of LLMs has been done in the English language, potentially giving an advantage to English-speaking users.
- There is no guarantee that ChatGPT and other LLMs will not eventually be put behind paywalls, widening the digital divide in terms of access.
- It can be difficult to recognize text created by LLMs, and programs currently available to detect AI generated content are unreliable.

Policies and Regulations

- Even creators of AI models agree that some oversight is needed to ensure ethical use of the tools.
- Many publishers are not allowing AIs to be listed as contributing authors, as they can not be responsible for the content they create. Human authors must take responsibility for identifying and correcting any errors or biases in AI generated text. Policies also require that any portion of text created by an AI program – when allowed at all - be specifically identified and include the program used to produce the content.
- The US and UK are among many countries working to develop principles and policies for AI use that will protect the rights and privacy of users and the public in general, while not stifling innovation.
- Many have warned against taking specific regulatory action at this point as the technology is evolving and very dynamic.

Conclusion

- ChatGPT and other LLMs will continue to be refined and in time many of the issues discussed will likely diminish. However, the models lack the perception needed to understand language and its relation to society, so will likely continue to make factual and commonplace reasoning mistakes.
- Human oversight is critical when dealing with AI tools. Results must be verified, citations must be confirmed, and human programmers must find and correct inaccuracies.
- ChatGPT can benefit authors when used responsibly, but it is not a substitute for expert knowledge on a topic and should not be used to create or reproduce unoriginal content and ideas.

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