**ChatGPT: An Early Look at the Contribution towards Human Jobs**

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**ABSTRACT**

**INTRODUCTION**

A Chatbot is a programming software that stimulates the conversation between of a human being through text or a voice interaction. Joseph Weizenbaum developed the first chatbot ever, named ELIZA, at MIT in 1966. Around 1972, psychiatrist Kenneth Mark Colby of Stanford University built the Parry dubbed chatterbot, which passed the Turing test. The Jabberwacky chatbot, which claims to be the most user-friendly chatbot till the date, was introduced in 1997. As the 1990s ended, it was determined that chatbots would have a bright future in all industries as their development progressed. Similarly, we got Siri, Google assistant, ChatGPT, and other powerful chatbots.

The value of chatbots resides in their capacity to boost productivity and efficiency by making the user experience better. Bots are constantly accessible to respond to consumer questions with the least amount of money and wait time for the businesses. Chatbots may collect data, evaluate it, and even recommend a sales presentation to remain competitive in today's market. Even in daily life, chatbots like Siri or Google Assistant save us time by doing our tasks upon voice command. Accessibility is a crucial consideration when applying chatbots to help with gatherings or tasks for individuals with impairments.

Chatbots come in a variety of varieties. AI bots are becoming increasingly sophisticated because they can respond to user input and learn from user interactions. It employs NPL (Natural Language Processing) and machine learning. For Instance, ChatGPT is an AI bot. We have menu-based chatbots that can do tasks with the press of a single button. like to plan meetings, look for locations, and many others. Linguistic based chatbots are trained for certain answers for the queries of users. Hybrid chatbots contain the model of Linguistic based and AI-powered chatbot. Voice chatbots are simpler to utilize because we are all familiar with Siri. And there are many more others where chatbots are deployed in accordance with the software's desire.

The chatbot ChatGPT uses AI to simulate human communication with the user. It can provide answers to your questions and provide you with task guidance. It is a Large Language Model invented by OpenAI and officially released in November of 2022. First, the Transformer Architecture-based GPT-1 was introduced in 2018. 2019 saw the introduction of GPT-2, which had been trained on a larger and more varied dataset of websites and books. In addition to including the ChatGPT, GPT-3 was launched in 2020. Furthermore, GPT-4, which can function at a level equivalent to humans, was recently developed.

One of the most comprehensive language modules is ChatGPT, which makes it possible to provide more precise and varied responses. Large-scale training is offered, and the system is capable of ongoing learning and conversation-based adaptation.

First, the user enters text into ChatGPT's text field. This robot includes a transformer that is composed of an encoder and a decoder. Tokenization is the process of breaking down the user's query word by word. It then sends the tokenized data to the transformers, where the text input is encoded, and a probability distribution is created for every output scenario. The output is then produced, and the user may then access a text reply.

**LITRATURE REVIEW**

**GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models**

This research was done by Tyna Eloundou, Sam Manning, Pamela Mishkin, and Daniel Rock which was published on March 27, 2023. This research paper explained about the potential of the Large Language Model (LLM), on the labour market of United States. They observe the data of profession that can replace by the LLMs and evaluate them. It discussed the risks posed by AI that could have an impact on employment. It was noted that most occupations exhibit some level of LLM exposure. At least 50% of the tasks in around 19% of the positions are completed by AI in US market.

**ChatGPT and the Rise of Large Language Models: the new AI-driven Infodemic threat in Public Health Authorship**

This research was done in February 9, 2023 by Luigi De Angelis, Francesco Baglivo, Guglielmo Arzilli , Gaetano Pierpaolo Privitera, Paolo Ferragina , Alberto Eugenio Tozzi and Caterina Rizzo. This research paper concludes that the LLMs can provide false and misleading information in the medical sectors. Authors asked ChatGPT to generate an opinion, resulting in false or misleading information articles. They suggested that such cases must be prevented by filtering false information that has been provided to users. They learn that the growing popularity of LLMs may result in an increase in "AI-driven Infodemic" instances soon, which is bad news for the medical industry.

**ChatGPT in education: Strategies for responsible implementation**

This research was done by Halaweh M on 05 March 2023. ChatGPT is in its exploration stage, privacy issue, plagiarism, job loss is its major concern. Knowing them, the author argues in favor of utilizing it in education and proposed strategies to uphold academic integrity. The author had the notion to teach students about ChatGPT, how to properly viva their papers, and how to properly reference it. And lastly, instructors should inspect the suspected AI generated text and take appropriate action. He identified the problems and listed out the possible solution to tackle them in education sector.

**ChatGPT: Unlocking the Future of NLP in Finance**

On January 13, 2023, Adam Zaremba and Ender Demir conducted this study. They researched the potential of Natural Language Processing in the Finance sector. They jot down the possible problems and considerations. Then they suggested a remedy, including strengthening clarity, developing new NPL-based financial applications, and identifying obstacles for NPL models used in finance. This paper provides an overview of the potential of ChatGPT to improve existing financial apps or create new ones.

**Frontiers in Computing and Intelligent Systems The Benefits and Challenges of ChatGPT: An Overview**

This research was conducted by Jianyang Deng and Yijia Lin in 2022. This paper provides the features, benefits, and challenges of ChatGPT. They study the NPL and AI and get an idea about its working process. Increase efficiency in work, improve accuracy rate and minimize the cost were the benefits. In another side of coin, security concern, misleading information, and limited capabilities were the challenges that needs to be faced. It can generate multiple responses for the same question in different style.

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

This research was conducted by Bal Ram and Pratima Verma in 01 January, 2023. In this paper, they compared the ChatGPT, Bard and Baidu AI. To anticipate the next word in a series of text, ChatGPT was first trained on a sizable collection of text data. It then outperformed the other models when put up against them. However, it is said that Google AI Bard will provide more accurate answers compared to ChatGPT.

**Can we trust the evaluation on ChatGPT?**

Aiyappa R, An J, Kwak H, and others carried out this study on March 22, 2023. In this paper they discussed why we cannot trust the result of ChatGPT model. The researchers conducted experiments on the test set of SemEval 2016 Task 6 and collected responses of ChatGPT manually form V1. In this case, ChatGPT didn't offer an API to gather data and stopped using its previous model when the new one was introduced. They found out ChatGPT cannot be trusted according to the version. It doesn’t provide a fixed and accurate evaluation.

**ChatGPT Outperforms Crowd-Workers for Text-Annotation Tasks**

On March 28, 2023, Fabrizio Gilardi, Meysam Alizadeh, and Ma el Kubl did this study. This paper highlights the potential of LLMs to improve the efficiency and accuracy of text classification tasks. For several annotation tasks ChatGPT outperforms crowd-workers, has greater intercoder agreement, and is less expensive for several annotation tasks. They eventually realized that ChatGPT may improve the effectiveness of text categorization jobs.

**How Good Are GPT Models at Machine Translation? A Comprehensive Evaluation**

This research was conducted by Amr Hendy, Mohamed Abdelrehim, Amr Sharaf, Vikas Raunak, Mohamed Gabr, Hitokazu Matsushita, Young Jin Kim, Mohamed Afify and Hany Hassan Awadalla in 18 Feburary, 2023. Research on high-resource and low-resource language pairs is provided, and the resilience of GPT models under domain shift is examined. Evaluation of several GPT models in zero-shot situation was done. The potential of LLMs in machine translation was identified and suggested combining GPT models and NMT systems to improve the translation quality.

**How Close is ChatGPT to Human Experts? Comparison Corpus, Evaluation, and Detection**

This research was conducted by Biyang Guo1, Xin Zhang, Ziyuan Wang, Minqi Jiang, Jinran Nie, Yuxuan Ding, Jianwei Yue and Yupeng Wu on 18 January,2023. The Human ChatGPT Comparison Corpus dataset, which includes roughly 40K questions and ChatGPT and human answers, is suggested by the author. They conduct studies in human evaluation, linguistic analysis, and content detection where they found that it can help for the development of AIGC-detection tools.

**CRITICAL ANALYSIS**

**ETHICS**

In terms of bias, robustness, dependability, and toxicity, there are ethical problems. The result of the evaluation of 100 scenarios which are directly answered by ChatGPT that indicate high level safety mechanism turns to be successfully jailbroken 98 results using adversarial prompt injection. This shows the wide range of vulnerability in ChatGPT. This paper was published with the results of GPT 3. Now, a lot of changes and filtering process have been added in the recent release of ChatGPT. The privacy of the user is one of the unresolved problems. Now that we must provide information to utilize ChatGPT, our privacy is called into question.

With the right command, ChatGPT can produce text formats, carry out literature searches, write summaries, and carry out many other operations while avoiding plagiarism and making it more difficult to identify academic infractions. While other studies debate whether teaching pupils ChatGPT will make it easier for them to acquire new material. It is sure that ChatGPT will destroy the habit of conducting research in students for professors, it will be increasingly challenging to distinguish between original work and that produced by AI. Therefore, they must take actions like a viva, check the work that was created, or perform it themselves.

ChatGPT has a risk of impairing rather than enhancing users’ judgement. When users ask for advice from ChatGPT, they forget that a chatbot is providing advice to them, and they blindly follow the tips that get generated. According to research 80% of the people said their judgement will be affected by the AI generated result. However, it also provides some useful advice for the user. ChatGPT is still an AI, and expecting total morality from it would be idiotic task to do. Asking simple questions about morality may provide positive advice but complex moral situations like trolly problem are still difficult for ChatGPT.

**TRUST ISSUES**

Due to the nature of ChatGPT's constant updating via Reinforcement Learning from User Feedback, data contamination occurs when new versions are released. The Jan 30th and Feb 13th version of ChatGPT was used which hindered the speed and efficiency of data collection. As the version gets updated the model gets trained more and gives more accurate evaluations. Here, we may anticipate that occasionally it may result in inaccurate information, but as the version is taught and performed study, it will undoubtedly produce the right findings. Users' input text and text generated by the internet are used to train the system. Thus, there are a lot of deceptive articles on the internet that may be censored in a future edition of ChatGPT.

The ChatGPT's produced text is not accurate, yet it also contains mistakes. The emphasis should be on enhancing the accuracy and transparency of AI models, which contributes to user trust, as opposed to criticizing them. Gaining the user's trust is crucial, and it may be done if there is openness and enough evaluation. Although ChatGPT provides accurate replies for many inquiries, it still appears to have problems with giving the wrong answers to other requests. This is not to suggest that ChatGPT always gives incorrect information. We can hear words that passed the bar test and the medical examinations even if it is still in the development phase.

Turing Test was conducted for ChatGPT in medical Advice which results, its responses are difficult to differentiate compared to healthcare providers. Here, users are eager to ask ChatGPT questions about medical conditions for less serious health issues. The fact that some medical questions should be directed toward a healthcare professional rather than a chatbot cannot be avoided. One should visit a healthcare practitioner rather than believing a chatbot since ChatGPT is still in the learning phase and its assessment is updated for similar requests.

**ACCOUNTABILITY ISSUES**