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ChatGPT: The Future with Chat Bot

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ABSTRACT: ChatGPT (Chat Generative Pre-trained Transformer) is a chatbot developed by OpenAI and released in November 2022.It is built on top of the OpenAI GPT-3 family of large-scale language models and fine-tuned using supervised learning and reinforcement learning techniques (transfer learning approaches). The main advantage of using ChatGPT is that text can be generated quickly and accurately. Chatbots based on this technology can accurately understand customer questions and provide detailed answers in near real time. This makes it ideal for customer service departments as it can improve response times and provide more accurate responses than traditional call centers.

KEYWORDS: Reinforcement Learning from Human Feedback (RLHF), recurrent neural network (RNN).

I. INTRODUCTION

ChatGPT is a Chatbot . This CHATBOT is an online chatting software application. For example, some websites have automated Chatbot services. ChatGPT allows you to write poems, songs and short stories in the style of a specific author. To analyse the vast amounts of information, ChatGPT can save your lots of time and effort in understanding user reviews and social media conversations.

ChatGPT was released as a prototype on November 30, 2022 and quickly gained attention for its detailed and clear answers in many knowledge areas. However, non-uniform practical accuracy was recognized as a significant drawback. After the launch of ChatGPT, OpenAI was valued at $29 billion.

ChatGPT is a powerful chatbot based on OpenAI GPT technology. It can handle a wide range of text queries, from simple questions and answers to more complex tasks. For example, if you need help writing a note to a colleague, ChatGPT can create a thoughtful, well-written letter in just a few seconds. Similarly, if you want to fix a colleague's performance problem but don't know what to say, ChatGPT has the solution for you. Thanks to its massive data store and efficient design, ChatGPT can even write essays on topics like the value of artificial intelligence.

II. LITERATURE SURVEY

However, the optimism was balanced by concerns about the tool's reliability and possible misuse. Many respondents were concerned about possible errors or bias in AI-provided results. "At some point, ChatGPT created a completely virtual reference for me," says Sanas Mir-Bashiri, a molecular biologist at Ludwig Maximilian University in Munich, Germany. "There are no publications that actually exist. I think it's very misleading.

Others feared that such tools could be used dishonestly, such as cheating assignments or creating believable-sounding scientific disinformation. The idea that AI could be used to produce bogus scientific publications in "paper mills" and that overuse of AI to write problems could stifle researchers' creativity and slow down the learning process was often mentioned.

The key, many agreed, is to see AI as tool to help with work, rather than to replace work altogether. "AI can be a useful tool. However, it has to remain one of the tools. Its limitations and defects have always to be clearly kept in mind and governed," says Maria Grazia Lampugnani, a retired biologist from Milan, Italy.

III.   RELATED WORK

We trained this model with Reinforcement Learning from Human Feedback (RLHF) using the same method as InstructGPT, but with some differences in the data collection settings. We trained an initial model using controlled refinement. The AI trainer had conversations playing on both sides of the user and the AI helper. We have provided access to written sample sentences to help instructors write their responses. We blended this new dialogue dataset with the InstructGPT dataset converted into a dialogue format. Creating a reward model for reinforcement learning required collecting comparison data consisting of two or more model responses ranked by quality. To collect this data, we conducted a conversation between an AI trainer and a chatbot. We randomly selected messages written by the model, tried several alternative completion options, and then asked the AI trainer to rank them. These reward models can be used to fine-tune the model with proximity policy optimization. I repeated this process several times. ChatGPT was modified to GPT-3 in the model.

ChatGPT uses recurrent neural networks (RNNs) to process inputs and generate outputs. RNNs consist of multiple interconnected layers of neurons that can "remember" previous input data points.

1)   Iterative deployment

Today's research release of ChatGPT is the latest step in OpenAI's iterative deployment of increasingly safe and useful AI systems. Many lessons from deployment of earlier models like GPT-3 and Codex have informed the safety mitigations in place for this release, including substantial reductions in harmful and untruthful outputs achieved by the use of reinforcement learning from human feedback (RLHF). Users are encouraged to provide feedback on problematic model outputs through the UI, as well as on false positives/negatives from the external content filter which is also part of the interface. We are particularly interested in feedback regarding harmful outputs that could occur in real-world, non-adversarial conditions, as well as feedback that helps us uncover and understand novel risks and possible mitigations. You can choose to enter the ChatGPT Feedback Contest3 for a chance to win up to $500 in API credits. Applications can be sent via the feedback form, which is a link in the ChatGPT interface.

2)   ChatGPT and Social Change

Is this ChatGPT app a boon or a curse for those fighting for their children's education? Time will tell. ChatGPT app will be very useful to reduce your study cost. It would be great if youngsters who are always on their phones started reading good books through this tool.

From daily homework for housewives who can't afford their children's schoolwork, work, and family, to monthly science assignments, this tool is expected to greatly help your child's learning.

Employment has been declining for several years. In the age of technology where news is lined on mobile phones in many ways with great knowledge, you will not believe anyone who says that this ChatGPT tool will not reduce people's employment opportunities.

There are reports that Microsoft and some other companies will start using it soon. Will this ChatGPT harm human thinking and productivity, or will it increase productivity to incredible levels? This is yet to be seen. Sitting too long is a question mark for your health. GPT chat would be awesome if you could zoom out.

The idea is that this will help us understand how to balance data-driven technology with human creativity. This program has the ability to learn RLHF (Things Unknown) through reinforcement learning from human-supplied messages or information. This reinforcement learning makes ChatGPT more powerful and versatile.

3)   Big Problems With OpenAI's ChatGPT

1. ChatGPT Isn't Always Right

He can't handle the basics of math, can't answer simple logical questions, and even refute facts that are completely wrong.

2. Bias Is Baked Into the System

ChatGPT was trained on the collective writing of humans across the world, past and present. This means that the same biases that exist in the data, can also appear in the model.

3. A Challenge to High School English

You can ask ChatGPT to review your writing or point out ways to improve your paragraphs. Or you can step out of the equation completely and ask ChatGPT to write something for you.

4. It Can Cause Real-World Harm

Fake social media accounts pose a huge problem on the internet and with the introduction of AI chatbots, internet scams would become easier to carry out. Another problem is the spread of misinformation. Especially when ChatGPT makes even wrong answers sound convincingly right.

5. OpenAI Has All the Power

With great power comes great responsibility, and OpenAI holds a lot of power. It's one of the first AI companies to truly shake up the world with not one, but multiple AI models, including Dall-E 2, GPT-3, and now, ChatGPT.

4) Jobs that AI may replace

I. Tech jobs (Coders, computer programmers, software engineers, data analysts)

Coding and computer programming are in-demand skills, but it's possible that ChatGPT and similar AI tools may fill in some of the gaps in the near future. In fact, advanced technologies like ChatGPT could produce code faster than humans, which means that work can be completed with fewer employees

II. Media jobs (advertising, content creation, technical writing, journalism)

Media jobs across the board — including those in advertising, technical writing, journalism, and any role that involves content creation — may be affected by ChatGPT and similar forms of AI because AI is able to read, write, and understand text-based data well, she added.

III. Market research analysts

Market research analysts are responsible for collecting data, identifying trends within that data, and then using what they found to design an effective marketing campaign or decide where to place advertising."Those are things that we're now seeing that AI could handle

IV. Teachers

Teachers across the country are worried about students using ChatGPT to cheat on their homework

V. Finance jobs (Financial analysts, personal financial advisors)

AI can identify trends in the market, highlight what investments in a portfolio are doing better and worse, communicate all that, and then use various other forms of data by, say, a financial company to forecast a better investment mix,"

VI. Customer service agents

You've probably already experienced calling or chatting with a company's customer service, and having a robot answer. ChatGPT and related technologies could continue this trend.

IV. FEATURES

- ChatGPT wrote poems, screenplays, essays and answered questions. All with varying degrees of efficiency, but often surprised users.
- One of the biggest uses of ChatGPT is not only finding errors in computer programs, but also correcting them line by line.
- Anyone can interact with ChatGPT through an internet browser. Enter a question or command and a ChatGPT answer (almost anything). 1 million people signed up within 5 days of launch.
- Although the main function of a chatbot is to imitate the interlocutor, ChatGPT is universal.
- For example, he can write and debug computer programs and compose music, television plays, children's stories and student essays. answer the test questions

V. LIMITATION

1. ChatGPT sometimes writes plausible-sounding but incorrect or nonsensical answers. Fixing this issues is challenging as: (1)during RL training , there's currently no source of truth; (2)training the model to be more

cautious causes it to decline questions that it can answer correctly; and (3)supervised training misleads the model because the ideal answer depends on what the model knows, rather than what the human demonstrator knows.

2. ChatGPT is sensitive to changes in input phrases or repeated attempts to input the same hint. For example, with one word in a question, the model may claim not to know the answer, but with a little paraphrase, it can answer correctly.

3. These models are often overly verbose and overuse certain phrases, such as reiterating that they are OpenAI-trained language models. These issues stem from bias in training data (instructors prefer long answers that seem more comprehensive) and the well-known problem of over-optimization.

4. Ideally, your model will ask clarifying questions when users enter ambiguous queries. Instead, the current model usually guesses what you mean.

5. We've worked hard to force the model to reject inappropriate requests, but it can sometimes respond to malicious instructions or display biased behavior. We use moderation APIs to warn or block certain types of insecure content, but expect to be false negatives and positives for now. We aim to collect user feedback to help with our ongoing work to improve this system.

We asked: will ChatGPT take away human jobs?

In response, AI says, "ChatGPT and other language models like it can automate certain tasks related to natural language processing, such as customer service, data entry, and content creation. However, language models like ChatGPT are not intended to replace human jobs, but rather to help and supplement human jobs. They can help people improve the efficiency and accuracy of their work. The development and deployment of AI also requires human roles such as data scientists, engineers, and researchers."
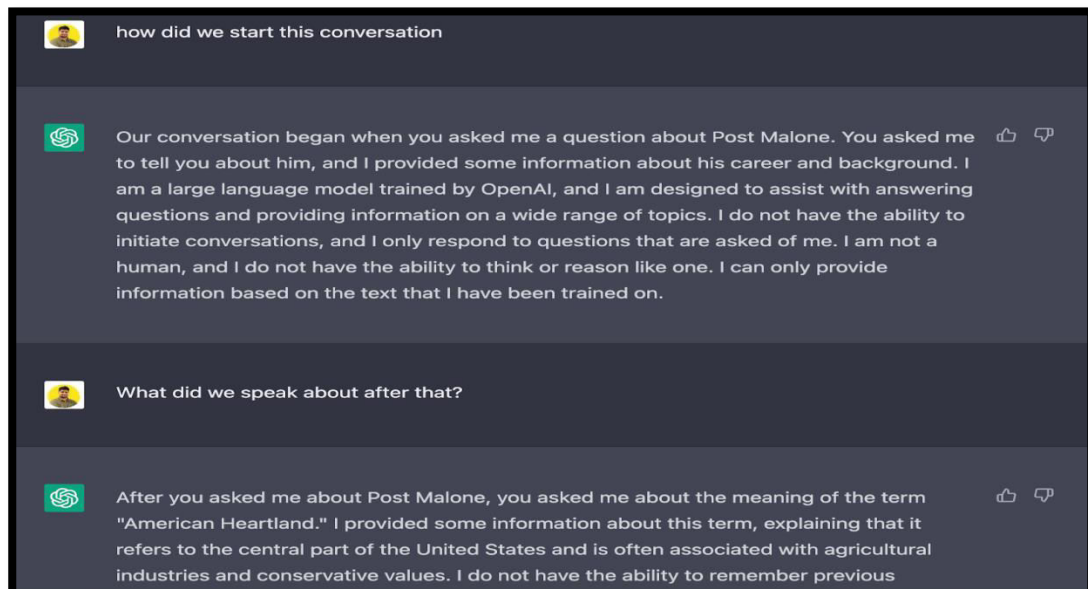
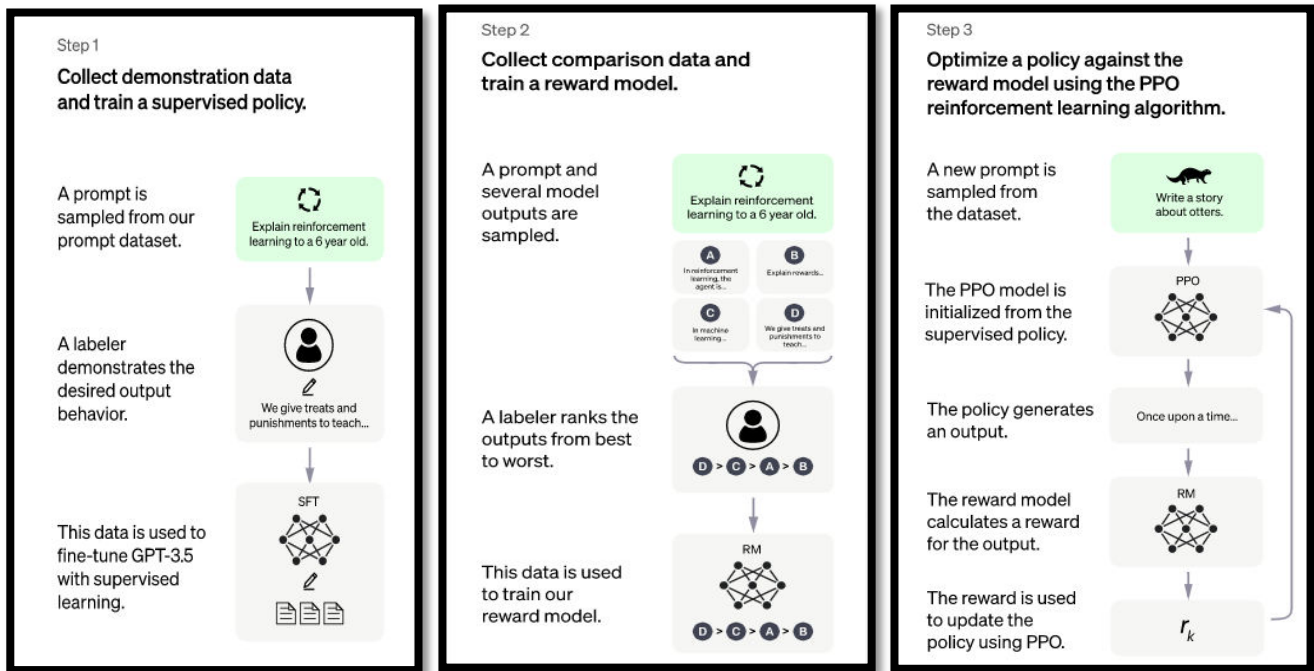## VI.   SIMULATION RESULTS

FIG 1:.TRIAL VIEW OF CHATGPT

FIG 2:. IMPLEMENTATION METHOD OF CHATGPT

VII. CONCLUSION AND FUTURE WORK

Google has already incorporated decades of artificial intelligence advances into its algorithms to better serve people visiting its domain. But both they and Microsoft are taking new steps towards adding generative AI to their search capabilities. Bing is beta testing integrating (more proven) ChatGPT into search. Google is working on implementing native chat functionality in Bard Search based on the existing LaMBDA language model. These changes are in active beta testing and are already facing accuracy issues. General purpose Chatbot must be simple, user friendly, must be easily understood and the knowledge base must be compact. Although some of the commercial products have recently emerged, improvements must be made to find a common approach for designing a Chatbot.

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