Paper title

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Abstracts

Keywords

The development and study of intelligent hardware and software, often known as intelligent agents, is a key component of artificial intelligence's (AI) increasing integration into our daily lives. Various tasks, from manual labor to complex operations, can be performed by intelligent agents. A chatbot is a computer software that replies to questions and comments like a smart entity. The exchange may take place via voice message or text. Natural Language Processing enables any chatbot program to comprehend one or more human languages. Chatbots are referred to as digital assistants, interactive agents, clever bots, and artificial conversation beings.

Alan Turing examined if a computer program could communicate with a group of people in 1950 without the participants recognizing that their interlocutor was artificial. Many people believe that the Turing Test is the inspiration behind chatbots. In 1966, the first chatbot with the name ELIZA was created. ELIZA returned the user's statements in the interrogative form, simulating the work of a psychiatrist. Despite its limited communication capabilities, it served as an inspiration for the creation of later chatbots.

It made use of a template-based response mechanism and straightforward pattern matching. Although it had poor conversational skills, it was nonetheless able to perplex users at a time when they were not accustomed to talking with machines, which inspired the creation of other chatbots. A chatbot dubbed PARRY that was created in 1972 was an upgrade over ELIZA. The chatbot ALICE was created in 1995 and won the Loebner Prize, also known as the annual Turing Test, in 2000, 2001, and 2004. The title of "most human computer" was initially attained by this machine. The core intelligence of ALICE is built on the Artificial Intelligence Markup Language (AIML), which enables developers to describe the fundamentals of chatbot knowledge.In 2001, chatbots like Smarter Child were created and made accessible through message services. The development of virtual personal assistants such as Apple Siri, Microsoft Cortana, Amazon Alexa, Google Assistant, and IBM Watson was the following development.

Chatbots can be classified using different parameters: the knowledge domain, the service provided, the goals, the input processing and response generation method, the human-aid, and the build method.

The GPT (Generative Pretrained Transformer) language model by OpenAI has a variation called ChatGPT. It is a sibling model to InstructGPT. It is intended to produce text responses that sound like human responses to user input in a conversational setting. With the help of a vast dataset of human conversations, ChatGPT was instructed to produce responses to a variety of themes and cues. The chatbot may provide responses in several languages and be utilized for customer support, content development, and language translation duties. It can be utilized in many different applications, including language translation software, chatbots, and customer service representatives. OpenAI ChatGPT is a cutting-edge language model that can produce natural and coherent text that can be mistaken for material authored by a human.

After OpenAI released its generative Pre-trained Transformer(GPT) model in 2018, work on CHATGPT began. ChatGPT has been improved from a model in the GPT-3.5 series that ended training in the first quarter of 2022. On an Azure AI supercomputing infrastructure, ChatGPT and GPT-3.5 were trained [intro chatgpt]. The GPT model's ability to produce responses to queries and conversations that resembled those of real people led to the creation of ChatGPT, a hybrid chatbot platform that combines GPT and NLP technology. The first chatbot platform, ChatGPT, combines GPT and AI-powered natural language processing to deliver more precise and human-like responses.

Diagram

Description automatically generated with medium confidence

The ChatGPT working structure requires a smooth flow of information and knowledge. The ChatGPT system's many functioning and developing processes for addressing the regular requirements of the social structure are illustrated in Fig. 1. With the aid of Figure, various four steps are highlighted and explored. It began with conversations and exchanges, then involved gathering data and making comparisons. The process is finished by finding the reward model and updating it in the cloud data set after the database has been sampled.