

# Research on Commercial Development and Investment Trends of ChatGPT

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**Abstract.** In recent years, conversational artificial intelligence - ChatGPT's development speed is very rapid, whether at home or abroad has set off a trend, more and more people enjoy the convenience it brings, it can be seen that artificial intelligence has become one of the inevitable trends of future development, and the future life is closely related. Many companies and individuals have keenly sensed its commercial value and huge development potential, and have launched relevant research on it, hoping to have a foothold in the future development of the flood and even become one of the leaders. The purpose of this paper is to study ChatGPT's related characteristics and unique advantages, as well as its role in human society and its manifestations in various fields, so as to help people have a clearer cognition of it and have a basic thinking prototype.

**Keywords:** Investment; ChatGPT; Business application.

## 1. Introduction

### 1.1. Background

With the rapid development of human society, the progress of science and technology is an unavoidable topic. Since AlphaGo defeated several Go masters in 2016, artificial intelligence has become one of the topics of great interest in the world. Especially in the era of epidemics in recent years, the emergence of artificial intelligence has helped humans solve many problems, such as medical care, business, resource allocation, and so on. Therefore, many people believe that the development of artificial intelligence technology will bring great convenience and innovation to human life in the future, and even future development is closely related to it. For example, ChatGPT, the most popular AI of late, is a language generation model based on the Transformer model, designed to generate natural language through pre-training and fine-tuning. This is a new mode of communication in which people can access information and exchange ideas more efficiently. It helps us to better divergent ways of thinking and think from different angles so that the ideas are more accurate and logical, which is the value it brings to us.

### 1.2. Related Research

The birth of ChatGPT has brought many benefits and opportunities to many enterprises and organizations, but the development of this technology has also brought many problems to people. For example, security, many criminals will use its characteristics to seek improper benefits, so it should be vigilant when using it [1]. The transformation of the search-to-answer engine is the most important driver of innovation and competition in the digital economy, a transformation that has upended the Internet ecosystem. But at the same time, people needs to pay attention to its market development and ensure the interaction of data protection, content moderation and artificial intelligence to ensure its future development [2]. The potential of AI for gray zone defense is huge, and it can do many things above the human level, such as reasoning, planning, and so on. At the same time, it can also detect anomalies in their related fields, but the relevant technology is still immature and has great potential for development [3].

Sustainable development has been one of the key concerns of people, in the era of the epidemic, much data has broken the lower limit, such as famine, poverty, etc. Whether artificial intelligence can help human beings in it, it's more accurate data analysis and resource allocation ability is crucial [4].

Counterfeiting has been identified as one of the threats to the information environment, and the Chinese government has made adequate preparations for the wave of AI after ChatGPT to ensure its authenticity, accuracy, objectivity, and diversity [5]. The pace of digital technology iteration is very rapid, and in recent years there have been many examples of disruptive digital technology commercialization without regulatory oversight, such as self-driving cars, fifth-generation networks, and so on. With the advent of ChatGPT, there are growing concerns that as their models get bigger, they might behave in unexpected ways or that such models could be used maliciously, and that action needs to be taken to prevent this type of thing from happening [6].

ChatGPT does not think or feel like a human, it extracts relevant information from a database, more like a librarian than an inventor, and its learning model promotes greater computing power and advances in algorithm development by expanding decision-making or precognition, but their model is dynamic and uncertain. So there is still a lot of room for development waiting for people to explore [7]. Finding the right talent is one of the factors to effectively develop AI intelligence, they can help AI better adapt to the dynamic environment, such as when the AI is not performing well, the right human-machine cooperation can help it improve agility, and create more and more opportunities [8]. ChatGPT is a very powerful tool, and many people in different fields are exploring how AI can improve or even change their industries, but ChatGPT is more focused on giving answers and not always the right response, so everyone who uses ChatGPT needs to understand [9]. ChatGPT also has implications for the news industry, which needs to carve out space in a more crowded, chaotic, and less original information ecosystem. The long-term health and sustainability of the news industry requires more than just technical solutions; it is also important financially. In short, to succeed, it still needs a society that is linked to critical thinking and the collective good [10].

### **1.3. Objective**

First of all, this paper will start with the full text of ChatGPT's relevant features to help people understand its characteristics and have a clearer understanding of it. Then it discusses the differences between ChatGPT and traditional conversational robots and the unique advantages of ChatGPT. Finally, it will study the application of ChatGPT in healthcare, education and intelligent customer service industries to understand its unique role in different fields.

## **2. Features and Advantages of ChatGPT**

### **2.1. Features**

ChatGPT (full name: Chat Generative Pre-trained Transformer) is a chatbot developed by the OpenAI team and released on November 30, 2022. It uses a large language model (GPT-3, now GPT-4), GPT, which stands for "generative pre-training," is a deep learning-based natural language processing technique that uses massive amounts of language data for pre-training to perform well on multiple natural language tasks. ChatGPT has functions such as natural language understanding, text generation, conversation generation, etc. It can realize automatic reply, chatbot, voice assistant and other applications. Different from other dialogue systems, it uses deep learning technology to learn rules and characteristics from a large number of language data, and its model parameters reach a staggering 17.5 billion, making it one of the largest dialogue generation models. Before ChatGPT, so-called artificial intelligence, machine learning, and chat conversation software were largely limited to observation, analysis, and content classification, as well as image recognition. But generative AI, represented by ChatGPT, is a technological breakthrough that can generate new content rather than just analyze existing data, and its technical core is generative AI. The underlying principle of ChatGPT is a neural network model called Transformer, which is an architecture for processing serial data and uses a self-attentional mechanism to establish relationships between the various elements in the input sequence. This architecture learns from large amounts of textual data to generate answers but cannot truly understand and deduce.

In addition, ChatGPT's Transformer architecture is a newer deep learning model than recurrent neural networks and long-term memory networks. ChatGPT then serves as a language model that can be used for a wide range of text-based use cases. For example, it can be a valuable language learning tool, providing translation, grammar interpretation, vocabulary exercises and conversation simulations to help students practice and improve their language skills. It can also perform some simple programming tasks, such as file I/O operations, data manipulation, and database queries (but its ability to do so is limited, and the generated code may not be completely correct, be aware of that).

## **2.2. Advantages**

ChatGPT has many unique advantages. First, it is a large language model, and OpenAI has trained it extensively, so it can understand many different types of problems and solve people's problems effectively. Secondly, ChatGPT is also praised for its efficiency and accuracy, and after a lot of training, it can answer your questions in a short time, and users don't have to worry too much about its accuracy. In addition to answering questions, ChatGPT can also generate text, such as text conversations, stories, etc., without any language restrictions, ChatGPT supports multiple languages. Secondly, its privacy is also one of the characteristics, the user and every conversation is independent, the data is not shared with others, and it will be unique to your needs to expand. Finally, ChatGPT is much cheaper and more efficient for people to use than other human support.

## **3. Progress and Limitations in Commercial Applications**

### **3.1. Intelligent Customer Service**

ChatGPT reached 100 million registered users in just two months, making it the fastest-growing consumer app in history. This breakthrough innovation has led to an upsurge in the use of AI applications. It can complete multiple replies at the same time and has memory. Of course, accuracy and comprehensiveness have also been greatly improved. The working principle of the dialogue model used is that the user inputs words and words, and the model gives a piece of output, similar to the human dialogue model, and has high accuracy compared to traditional NLP models. Therefore, many people sense its commercial value and apply it to business. For example, Microsoft plans to use ChatGPT in its products and services, including Azure cloud services, Office productivity suite, Bing search engine, and more. The Azure cloud service integrates ChatGPT technology, which is expected to help Azure deliver richer AI interactive content. If ChatGPT is integrated into the Office suite, it can help users quickly generate required content and effectively provide creative efficiency. At the same time, if the ChatGPT technology is integrated into the Bing search engine, it will enhance Microsoft's service advantages in search engines. Buzzfeed, for its part, will use ChatGPT to create user-facing personality Quizzes in its interactive section "Quizzes" and generate personalized text content based on user responses.

It's not just these big companies that smell the business value, ChatGPT is also making a mark in the intelligent customer service industry. First and foremost, intelligent customer service is a system that relies heavily on manual operation, and its related products precipitate a large amount of data, such as session information, call records, recordings, and so on. At the same time, ChatGPT brings extremely powerful conversational capabilities, natural language acquisition, formatting prompts to complete limited tasks and the collection of visitor data and intentions. This combined with the traditional language robot capabilities will greatly improve the serviceability of intelligent customer service. Secondly, ChatGPT can help complete the application of intelligent filling. Although this is only experimental, there has been relevant research in the field of CRM on the market. The capability of this language model can effectively improve the practicality of this type of product. Finally, ChatGPT has good development potential in the aspect of intelligent customer service, and this paper considers that shortly, this series of related technologies will be more and more mature.

### 3.2. Medical Field

ChatGPT's contribution to the medical field cannot be ignored. First of all, ChatGPT is very promising in desk research. Chatgpt can summarize the core information of relevant diseases in concise language, greatly reducing the time of obtaining information, improving efficiency, and having strong summarizing ability. However, when it is applied in desk research, it is necessary to carefully judge the authenticity and reliability of the answers given, and not to blindly follow them. The answer it gives is only to help us think, more or to rely on users' ideas. Then, data analysis and medical text writing are unavoidable topics in the medical industry. The potential role of ChatGPT in data analysis work includes data processing related code writing and data analysis of generated reports, which greatly improves the efficiency, helps correct errors and provides relevant and useful data. For medical text writing, ChatGPT can successfully generate relevant medical reports, and proactively correct formatting and punctuation errors, and even make their conclusions and provide relevant recommendations. In the medical and health field, ChatGPT is limited by the common language training, the lack of Chinese resources, etc., and can play a limited role, but with the major technology companies continue to release new language models and docking with related enterprises to develop related products. AI will have great development in the medical and health field, which is very much expected!

### 3.3. Education

Then, ChatGPT came out and promoted a new round of artificial intelligence revolution, accelerating the advent of the intelligent era, social institutions will also change, and there will be great changes in many aspects, and the focus will be on how people understand the way of the world and the role. Education is an important part of this, and ChatGPT can replace everything conventional, stable and standardized. And the characteristics of modern education, such as graded class teaching, stable knowledge transfer, stable disciplinary structure, etc., ChatGPT can replace human resources to complete these things. At the same time, ChatGPT can also provide teachers with a starting plan to provide regular content, such as knowledge search, generation of relevant teaching content, and even classroom simulation. This greatly reduces the time required for the teacher to prepare the lesson and improves efficiency greatly. Secondly, for students, ChatGPT can provide students with a lot of ideas, make their thinking diverge, help students think and understand problems from different angles, and realize self-learning. At the same time, it can also help students block the task, divide the task into smaller parts, and cultivate students' self-confidence in completing the task independently. Finally, ChatGPT does have a great impact on education, but it should not blindly rely on the help provided by ChatGPT, and lose the opportunity to think independently. People should still have the ability to think independently and judge right and wrong. ChatGPT is just AI, which cannot replace human beings, and its purpose is to help human beings. There is no other motivation to make humans work and learn more efficiently and make everyday life easier.

## 4. Conclusion

This paper mainly studies some features of ChatGPT and its references in various fields. All in all, ChatGPT is indeed a milestone in the innovation of generative artificial intelligence technology, and its emergence has indeed transformed traditional AI into a big type. Many people favor it for its powerful performance, especially its efficiency and accuracy. It breaks away from the shackles of traditional dialogue robots, and it can, according to the questions asked, the ability to give answers in a short period and the associated guarantee of accuracy are also features that people like to talk about. Even though the development of artificial intelligence has been very rapid in recent years, it is also one of the important trends of future development, but this paper thinks ChatGPT is only the beginning of the era of artificial intelligence, not the end, many things can be improved, such as ChatGPT is lack of analysis, judgment, understanding ability. It cannot distinguish right from wrong and does more conformist things, and requires the support of underlying computing power. The

technical defects and problems of ChatGPT show that it cannot truly replace individuals or industries. Human beings have a long journey in the field of intelligent AI, after so many years of development, human beings are still standing at the starting point, human still have a long way to go, it must be down-to-earth, step by step, in this way, it may have a qualitative leap in this field in the future, it should be believed that with the efforts generation after generation, people will have great achievements in its field.

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