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Intelligent Chatbot: Review Paper

Garima Rani, Dept. of Computer Science & Engineering RDEC, Ghaziabad. garimarani01@gmail.com

Abstract

A chatbot is a computer program that can communicate with people in a human-like manner. You have two options to talk: you can either write or use software that turns your spoken words into written messages. A chatbot is a computer program that tries to talk to people like a human does. Lots of companies use it to respond to customer questions and assist them on the internet. This new system uses a computer program called a chatbot that can find and give helpful answers from the internet. It helps people learn how to solve problems using a computer. The plan is to show the chatbot how to know what people mean and answer back in various ways using instructions. After reading many documents, we found that chatbots are helpful for everyday tasks. Chatbots can act more like humans when we talk to them because Artificial Intelligence is improving. The aim of this project is to create chatbots that understand your requests and provide helpful responses. Doing things this way will mean we need less people to do them quickly and with more quality. We want to try different things to see how we can get what we want.

INTRODUCTION

Computers can now think and learn like people thanks to a technology called artificial intelligence. This technology is becoming increasingly popular on mobile devices. One thing we can do with this technology is make computer programs that can talk to humans, called chatbots. Chatbots have different uses - they can be practical or entertaining. However, we are unsure if they are truly helpful. Sometimes, people make chatbots without a good reason for why they need them. At first, some people might Rephrase be curious about chatbots and feel like talking to them. To keep people engaged, it's important to have a chatbot that serves a specific purpose and provides useful information. Some people struggle to describe chatbots and use them well.

Chatbots can chat or send messages to people, but their level of assistance depends on the context. To understand how someone wants to share information, you must know their purpose and their surroundings. To know how people use chatbots every day, we need to look at it from the person's point of view who is using the chatbot and not just the one who created it.

To know if chatbots are good and people like them, we can look at how they perform compared to other choices. This helps us figure out if they are helpful. Chatbots on phones make using technology easier. Nowadays, there are lots of phone apps called chatbots. They can do lots of stuff on apps like Facebook Messenger, Slack, Telegram, websites, and Skype.

RELATED WORKS

Chatbots are programs that allow people to talk to computers in a more natural way. Chatbots allow individuals to ask questions as if they were speaking to another person. Alexa and Siri are well-known robots that interact with people using voice commands. Now, computer chat systems are also using robots that can chat.

Chatbots are becoming more popular because computers are getting better at understanding how humans talk. Chatbots are being used more now because machines have gotten better at understanding language. This means they can understand what people say more accurately, making them more effective. NLP is improving, which is leading to an increase in research. People believe that this will improve chatbots in the coming years. In the coming years, websites will have more chatbots that people can use easily and they won't cost much.

Researchers are looking for ways to make chatbots better by creating more advanced computer programs. As lots of people use chatbots, they want to make them work even better. These studies require experienced workers and various computer programs. Chatbots are like robots that can talk to people on messaging apps. They might be better at it than humans. These things might become really good at gathering information soon. Scientists are trying to

make chat robots that can do a lot of things and show us how they use language to comprehend what we say.

PROBLEM STATEMENT

In online marketing, businesses want their customers to know about their products to get more sales. It's good to have a website where clients can talk to you, but it might not tell them everything or give good answers to all their questions. People prefer getting quick answers instead of relying on traditional methods such as leaving comments as they can be time-consuming. People cannot answer questions all the time. A smart talking computer program that uses advanced technology called Artificial Intelligence (AI) could be useful in this situation.

An AI chatbot is a computer program that helps people communicate with machines as if they were talking to a real person. The machine can respond with various answers based on what the person says and can reply in a useful manner. Our smart computer program can help companies solve the issues mentioned previously. Today, machines can do the work that people used to do by hand. This makes things work quicker and makes customers more satisfied. A chatbot is a helpful tool that can talk to people using normal language.

It's difficult to make chatbots that are smart because it requires a lot of knowledge, even with many available tools. Nowadays, we have better ways of doing things and more knowledge, so we are starting to fix these problems with the help of AI. A computer program called a chatbot with smart technology called AI can help businesses talk to customers better and make running the business easier.

EXISTING SYSTEM

ELIZA :

ELIZA was the first chat program and was made by Joseph Weizenbaum. It worked by matching words. ELIZA was made to understand what users said, look for certain words and give appropriate responses. If ELIZA couldn't find a word, it would ask the user for more information using pre-made rules so they could keep talking. Let's look at an example to understand how this worked.

User:How can I contact my mom.

When ELIZA found "mother" word, she connected it to "family," and gave this answer.

ELIZA:Can you tell me more about your family, please.

It's worth mentioning that ELIZA did not really understand anything, but it just produced answers using some set guidelines. ELIZA suggested that the user give more information about their family to find a keyword because "mother" and "family" were related. But, if ELIZA couldn't find a word, it would say things like "Tell me more" or "Can you give me an example. " to keep talking.

In 1995, Richard Wallace made a computer program called ALICE. It matches patterns and saves the data in files called AIML files. AIML files are like special documents that chatbots use to save ideas for conversations. AIML has three types of groups: simple categories, normal categories, and repeated categories. We will describe each group separately.

A.L.I.C.E :

ALICE (Artificial Linguistic Internet Computer Entity) is a chatbot implemented by Richard Wallace in 1995. It uses pattern matching and stores information in AIML (Artificial Intelligence Mark-up Language) files. AIML files are similar to XML files and were specifically designed to store pattern knowledge for chatbots.

There are three types of AIML categories: atomic categories, default categories, and recursive categories. Let's describe each of them:

Atomic categories: This type of AIML category involves an exact match between the user input and the pattern defined in the category. Here's an example:

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<category>
  <pattern>What is your name</pattern>
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<template>My name is Nick</template>
</category>
In the above example, if the user submits "What is your name," the chatbot will reply with "My name is Nick" as a response.
Default categories: This type of AIML category uses wildcards, such as "*", to match any input that fits the pattern. Here's an example:
<category>
<pattern>What is *</pattern>
<template>It is my name</template>
</category>
If ALICE does not find a solution using the first category, it will proceed to the second. In this case, if a user submits "What is a name," ALICE will match the wildcard "*" and respond with "It is my name."
Recursive categories: This type of AIML category involves the use of special tags to refer to recursion, which prompts the user to provide more specific information. Here's an example:
<category>
<pattern>Do you know what the * is</pattern>
<template>It is my name <srai>What is <star/></srai></template></category>
In this example, the wildcard "*" is used to extract a specific part from the user input. If the user submits "Do you know what the time is," ALICE will extract "time" using the wildcard and then recursively ask, "What is the time?" to elicit a more specific response.
By using these different types of AIML categories, ALICE can provide responses based on exact matches, match any input with wildcard patterns, and recursively prompt for more specific information.

ChatGPT:

ChatGPT is a new and advanced technology in chatbots that uses AI. This uses a special program called GPT-3. 5 to talk like a person. GPT-35 knows a lot of words because it learned from reading lots of different things. So when you talk to it, it can understand you and answer like a real person.
ChatGPT is special because it can understand and make sense when talking to people and respond in a way that makes sense to the conversation. ChatGPT can talk about many different things and give helpful, expressive, and relevant answers.
The way GPT-3. 5 learn is by reading lots of different things on the internet. It figures out how language works, what makes sense, and how to recognize patterns. ChatGPT is taught a lot before it talks to people so that it can understand and talk like a real person.
ChatGPT can help people with different things like answering questions, giving reasons, proposing options, suggesting things, and talking informally. It can understand what you say and give you an answer that makes sense for what you asked.
One good thing about ChatGPT is that it can have a conversation in a natural way. It remembers what was previously said and uses that information in later conversations. This thing makes talking with it more interesting and easier to understand.
Although ChatGPT is very advanced, it still has some restrictions. Sometimes it can give wrong or silly answers, and it might not ask more questions to understand when asked things that can be understood in different ways. OpenAI is always trying to make its system better and fix any problems it has.
ChatGPT shows how amazing AI chatbots can be. This can be used in different apps for talking to customers, virtual helpers, and language learning programs. People can talk to it and get helpful responses.
ChatGPT is a type of software that uses artificial intelligence and can chat like a human. It's really good at understanding what people say and can respond in a way that sounds just like a person. This is helpful because it makes it easier for people to talk to machines.

PROPOSED SYSTEM

Our project is based on a Chatbot that is run by Artificial Intelligence. We made a program that uses Nodejs. It helps people use the internet more easily by showing them a simple screen to click on. This helps them find good websites that they can trust. We made a simple computer program called a chatbot that helps people who use Twitch, an online website. This website helps you solve problems by using smart technology that works like humans. Our chatbot can help you with different problems or questions you have.

We have a method of making a Chatbot that looks good, using something called Cascading Style Sheets (CSS) to style the way it looks. The chatbot works with JavaScript. We use Nodejs to create the back end of our website. Our chatbot uses different methods to learn from what users say and improve how it gives help.

Our chatbot is a helpful tool that uses AI technology to talk to people and answer their questions with smart and useful information. Our chatbot is always improving to make sure it gives you a great experience and helps solve your problems better.

CONCLUSION

In summary, an AI chatbot, specifically designed for chat completion tasks, can be a valuable tool for addressing programming errors. It has the capability to provide debugging assistance, predict defects, and explain coding bugs in a conversational manner. With its expertise in understanding and generating human-like text, as well as its proficiency in analyzing code segments, an AI chatbot is well-suited for assisting in debugging tasks.

However, it is important to acknowledge that an AI chatbot, like any AI system, is not flawless. The accuracy and quality of its responses depend on factors such as the training data it has been exposed to and the underlying structure of the system. Therefore, it is crucial to use additional debugging tools and methodologies to validate the accuracy of the chatbot's predictions and explanations, and to ensure that the code is free from errors.

An AI chatbot should be considered as an integral component of a comprehensive debugging toolkit, working alongside other tools and techniques to achieve optimal outcomes. By leveraging the strengths of an AI chatbot, developers can gain a comprehensive understanding of their code, efficiently detect programming flaws, and effectively address and rectify errors in their software applications.

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