

# CONTEXTUAL CHATBOT FOR COVID-19 UPDATES

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*Abstract: Conversational AI is a sub-domain of Artificial Intelligence that deals with speech-based or text-based AI agents to have interactions. Conversational AI Agents like chatbots and voice assistants are some helping tools which can perform this type of functionality. For Conversational AI, Machine Learning and Deep Learning are playing an important role. It has been a tremendous amount of advancement due to the increasing research interest in these fields. Complex hardware structures like GPUs and TPUs new advancement needs to be in existence. Due to the Natural Language interface and the nature of their design, conversational agents have been seen as a natural fit in a wide array of applications like healthcare, customer care, ecommerce and education. Due to these fields today, Conversational AI is in high demand and is more preferable by organizations. More newer architectures can be seen in future having complex core components.*

**Index terms** –AI, Chatbots, ML

## I. INTRODUCTION

Conversational AI refers to a type of artificial intelligence designed to help software understand and interact with people in the most intuitive way possible – using natural language. It is widely used in large businesses to deliver automated and personalized communication experiences using voice assistants, chatbots, and messaging apps. When we interact with computers, we want it to act as human beings. It's no use trying to conform to how computers are scripted to speak – that only leads frustration, and often times, a lot of it. We want computers to act the way the human beings do. It is only possible through Conversational AI. AI technologies like chatbots that act the way like humans do. It makes the conversation easy and natural between computers and humans. But conversational AI isn't just one thing. It can recognize human interactions like what a person is trying to say, determine it, what language etc.

## II. WORKING

Conversational AI Agents have become mainstream today with the tremendous advancement in methods required to build accurate models, i.e. machine learning and deep learning, and, secondly, due to the fact that they are seen as a natural fit in a wide range of domains, like healthcare, e-commerce, customer care, tourism and education, that heavily depend on natural language conversations in day-to-day operations. Research and development where innovations are now happening everyday.

Conversational AI works by breaking sentences down to their root level, by handling the many quirks of human language, and by acknowledging that there is information or a command to be parsed. NLP is used for computers to make them understand human language. Hence it makes use of indents and entities for statistically significant patterns that it has been trained to identify, and by considering factors such as synonyms, canonical word forms, grammar, slang, and more.

The system's goal then is known as intent recognition, or matching a user's goal to a predefined task or question.

Conversational AI comprehends and engages in natural language processing (NLP) and additional AI algorithms.

- First, the AI must understand the question what the customer has raised. NLU is responsible for deciphering the question of customer to computer language. With sophisticated NLU, the AI will be able to understand the user's intent even among grammatical mistakes, shortcuts, and remember context from one statement to the next, comprehending what is being said throughout the conversation.
- Next, through machine learning, the AI will intent the right response to the user's question. As the AI answers user questions over time, and as human agents help to guide its knowledge, it learns more variations of the same intent and which responses are the most appropriate for each intent.
- Finally, using natural language generation, the AI generates a response in a format that is easily understood by the user.

## III. PROPOSED SYSTEM

Facebook is one such messenger that keeps the world and businesses up to date. Facebook messenger is also very easy to keep the world connected and receive variety of updates occurring. In this paper, your chatbot is capable of telling the live corona virus cases in India and also

it is capable of taking a corona assessment test for you.

1. Building your first chatbot that is capable of taking self assesment test - For now, in this chatbot we are considering the case when you are not having coronavirus are you corona negative. A chatbot is made but further modifications can be done as per the requirements.
2. Web scraping based live corona virus cases crawler - Secondly, we will add the web scraping feature that will crawl the live corona cases in India so that when the bot will be asked for the live update the bot will reply with the active, recovered and deceased corona cases in reply so that you don't have to check it manually.
3. Integrating rasa chatbot with facebook messenger - Lastly, we have to integrate the rasa chatbot with the Facebook messenger. We need to integrate our facebook page for that, so that followers too can use the chatbot to know the status of covid cases.

## IV. EVOLUTION OF CONVERSATIONAL AI

### LEVEL 1 – NOTIFICATION ASSISTANTS

This level is as simple as receiving notifications on your phone but they show up in a messaging app like WhatsApp instead. This is how push notifications work on iOS and Android devices, with basic settings.

**Example:** You have signed up to be contacted by your renters insurance company via Facebook. A notification assistant would send you a message on Messenger that you have to renew your insurance in one month.

If you then want to know some details - like “How much is the renewal?” nothing happens, or a human agent gets back to you

### LEVEL 2 – FAQ ASSISTANTS

This type of assistant is considered easy to use and effective. The assistant allows the user to ask a simple question and get a response. Many FAQ assistants also allow multi user chat in order to reduce the waiting time of the user.

**Example:** With Level 2 assistants, now when you ask the insurance chatbot on Facebook, you actually get a response to your question. However, it is still not interactive - the response is judged as general help, rather than specific help. In response

to “how much?” the response will be something like: “You can calculate your renewal price on our website xyz.com/renew”

### LEVEL 3 – CONTEXTUAL ASSISTANTS

As bot developers know, giving users a box to freely type into rarely ends as expected. Context matters: what the user has said before is expected knowledge. Considering context also means being capable of understanding and responding to different and unexpected inputs.

**Example:** You’ll be asked if you still live in the same flat, and if anything has changed. After a short interaction, the price is set and you can directly buy the new policy in Messenger.

### LEVEL 4 – PERSONALIZED ASSISTANTS

As you might expect from a human that gets to know you over time, AI assistants will start to operate in the same way. At this level, an AI assistant will learn when it’s a good time to get in touch and proactively reach out based on this context. It will remember your preferences and give you the ultimate, personalized interface.

### LEVEL 5 – AUTONOMOUS ORGANIZATION OF ASSISTANTS

Eventually, there will be a group of AI assistants that know every customer personally and eventually run large parts of company operations—from lead generation over marketing,

sales, HR, or finance. This is a vision we see as reality, even if it is as far as a decade away.

## **V. CONVERSATIONAL AI VS. TRADITIONAL SCRIPTED CHATBOTS**

Conversational AI makes use of chatbots because people like to engage with AI in a humanlike way (example - Google Home, Alexa, and other virtual assistants for your home). These days humans more likely like to interact with chatbots instead of searching and viewing themselves. In Traditional scripted chatbots may claim to have conversational capabilities, but humans will have to write scripts and dialogues behind the scenes. The chatbot is to be told the exact lines and words regarding question. When the chatbot recognizes words or phrases in a question, they respond with pre-written answers for that question. If the user's input doesn't match the keyword phrases the chatbot is programmed to recognize, the chatbot won't be able to deliver one of its canned responses.. It is very difficult for a user to manage than conversational AI. Without conversational AI, will you have to always type and search for your queries which become time consuming and hectic for a user.A real AI chatbot conversation requires conversational AI.

## VI. APPLICATIONS

- Retail and e-commerce.
- Travel and hospitality.
- Banking, finance, and fintech.
- Healthcare.
- Media and entertainment.
- Education.

## VII. CONCLUSION

Conversational AI will help to save lot of time, money and work effectively and efficiently. Many organizations and businesses are using Conversational AI on large scale now just to increase productivity and meet the customer needs. It is considered better no company representative for solving simple queries of the customer. Many new technologies regarding Conversational AI will be upcoming in the future giving more realistic experience to the users. These tools are an easy way to streamline the process of keeping up with your customers and leads evolving needs.

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