**CHATBOT**

A chatbot is an AI based computer program that can

simulate a conversation (chat) with a user in natural language.

Also known as “digital assistants”, “talkbot”, “interactive agent”,

“artificial conversation entity”. Bots interpret and process the user requests and give prompt relevant answers.

Although a chatbot is often seen as the most promising expression of interaction between humans and machines,

from a technical point of view a chatbot is the natural evolution of a Question Answering system

leveraging Natural Language Processing.

The main 2 core tasks of a chatbot are “analyzing the user request” and “generating a reply”.

The analyzing step mainly focuses on identifying the user intent and extracting relevant entities.

This, of course, is the most important function of the chatbot,

if you are not able to understand the user’s request, you won’t be able to provide the correct answer.

That is why this step will be the main focus of this course also.

There are quite a few methods to do this,

and by the end of the course you will know which to use depending on the context and the type of chatbot.

The second step, “generating a reply” involves of course the chatbot finding the most appropriate response for the user’s request.

This answer can take a number of forms:

A generic and predefine text, a text constructed from a knowledge base, data stored in enterprise systems,

the result of an action the bot performs with the backend application or

a disambiguation question that helps the bot understand the user's request.

Why are chatbots important and how are they used?

Most direct answer to this is that chatbots boost operational efficiency for businesses

by providing an automated way of dealing with most customer requests.

While there are other uses, by far the most popular one is using a chatbot for customer service.

This comes with a lot of benefits for a business:

Reduce customer waiting time. Chatbots can provide immediate responses to users without making them wait in a queue

24/7 availability, bots can stay available non-stop, essentially eliminating the scheduling problem

easy scalability

this is probably the most important one, as it essentially means that a business can use a single bot

to respond to as many customer requests as needed instead of having to pay extra man-hours.

Besides the client-side benefits presented above, chatbots come with a strong list of marketing benefits as well.

Most notably being “better customer engagement”,

“automated lead qualifications & sales”, “reduced customer churn rate”

There are 2 main types of chatbots. Conversational and Task-specific chatbots.

Conversational or general or virtual assistants don't have a predefined path for conversation.

They converse with the user continuously on a broad array of topics.

They simulate real life conversations.

Don't have certain actions to achieve and can have a more clear personality if trained correctly.

Task-specific bots on the other end, have a certain task they need to complete by communicating with the user

They have a much more structured interaction.

Usually they have a limited number of topics they can respond to.

And they follow a predetermined set of rules and scenarios.

Conversational bots are quite a different task to tackle as they involve mostly training language models

and combining those with other techniques to create a system that can chat in a general way.