

JARVIS PROJECT



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Have you ever wonder how cool it is, if we have an AI which can do work for us. It can do anything for us such as sending email, searching the result from Wikipedia, opening an app, browsing websites and many other tasks such as playing music with the help of our single command of voice. The name of our A.I assistant is Jarvis.

What can this A.I assistant do for us?

- It can send Email to our recipient
- It can play music for us
- It can search the required result from Wikipedia
- It can browse the websites just by our voice command
- It can display and tell us about time
- It can also open up softwares like Powerpoint, Excel etc from your PC
- It can also wish you Good morning, Good Afternoon and Good Evening depending upon the time

Our all, a lot of task can be performed by JARVIS. Its domain is vast. There is nothing in the world that an A.I can't do. The world is progressing swiftly and going to change in few decades with advancement in the field of science. In the next decade it is the possibility that A.I take over the world. As you all have seen different sort of A.I used by people around you such as Alexa, Siri, Google Assistant. As we all use Android mobile that why most of people are familiar with Google Assistant and its functioning. Now moving toward Jarvis.

J.A.R.V.I.S. (Just A Rather Very Intelligent System) is a [fictional character](#) voiced by [Paul Bettany](#) in the [Marvel Cinematic Universe](#) (MCU) [film franchise](#), based on the [Marvel Comics](#) characters [Edwin Jarvis](#) and [H.O.M.E.R.](#), respectively the household butler of the [Stark](#) family and another AI designed by Stark. J.A.R.V.I.S. is an [artificial intelligence](#) created by [Tony Stark](#), who later controls his [Iron Man](#) and [Hulkbuster armor](#) for him. (Wikipedia)

Modules in our JARVIS:

- Pyttsx3
- Speech Recognition
- Tkinter
- Time (Strftime)
- Date and Time
- Wikipedia
- Webbrowser as wb
- Os
- Smtplib

How to install a module in Python 3.10?

In Python 3.10 we install a module by using a command given below:

pip install module_name

Firstly open Command Prompt or Window Shell then type this command following by module name and press Enter key. The module will going to start downloading. Be aware that your laptop or PC should be connected to internet, if it is not then the module will not download and command will throw you error.

Creating a tkinter window:

Firstly we have to create a tkinter window to create the starting interface of Jarvis. It consist of two button. Their name is given below:

- 1) Start
- 2) Exit

Downloading Tkinter module:

To create a tkinter window we firstly need to download a module named as tkinter.

To download this module we used the command **pip install tkinter**. After downloading this module we need to import this module by using the **import** command. We can easily used this module to create GUI in Python.

Importing tkinter.ttk:

To decorate our GUI window we also need to import tkinter.ttk by using import command. This module provide a lot of features to us for making our tkinter screen more attractive and beautiful.

Defining Speak Function:

The first and foremost thing for an A.I. assistant is that it should be able to speak. To make our JARVIS able to talk, we will make a function called **speak()**. This function will take audio and then speak. For this we install a module named as pyttsx3. It is a python library that will help us to convert text to speech. It works offline.

What is sapi5?

- It is an API that is developed by Microsoft.
- Helps in recognition of voice.

What is VoiceId?

VoiceId helps us to select different voices.

- voice[0].id = Male voice
- voice[1].id = Female voice

Defining Wishme() function:

Wishme() will make our JARVIS wish or greet the user according to the time of computer. To provide current time to A.I we will import **datetime**. This module is built-in in Python. In this function we will use conditional statement if-elif-else for JARVIS to wish us according to the time.

Defining Take command Function:

The next most important thing for our JARVIS assistant is that it should take command with the help of the microphone from user. Now we will make a takeCommand() function. With the help of the takeCommand() function, our A.I. assistant will return a string output by taking microphone input from the user. Before defining the takeCommand() function, we need to install a module called **speechRecognition**.

Installing of Wikipedia module:

For searching and extracting data from Wikipedia we need to install a module is called wikipedia.

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Defining a query:

We have set the language to en-in, which is English India. It returns the transcript of the audio which is nothing but a string. We've stored it in a variable called **query**.

If the query has **exit** or **stop** words, it's mean that we're asking Jarvis to stop immediately.

Functioning of JARVIS:

To search something on Wikipedia

We have used if statement to check whether Wikipedia is in the user's search query or not. If Wikipedia is found in the user's search query, then two sentences from the summary of the Wikipedia page will be converted to speech with the speak function's help.

Importing web-browser:

To open any website, we need to import a module called web-browesr. It is an in-built module, and we do not need to install it with a pip statement, we can directly import it into our program by writing an import statement.

To open YouTube site in a web-browser:

Here, we are using an elif loop to check whether Youtube is in the user's query. Let' suppose the user gives a command as "open youtube." So, open youtube will be in the user's query, and the elif condition will be true.

To open Google site in a web-browser:

We are opening Google in a web-browser by applying the same logic that we used to open Youtube.

Importing Os module:

To play music, we need to import a module called os. Import this module directly with an import statement.

To play music:

We first opened our music directory and then listed all the songs present in the directory with the os module's help. With the help of os.statrfile you can play any song of your choice. I am playing the first song in the directory. However, you can also play a random song with the help of a random module.

To know the current time:

We are using the datetime() function and storing the current or live system time into a variable called strTime. After storing the time in strTime, we are passing this variable as an argument in speak function. Now, the time string will be converted into speech.

To open the VS Code:

To open the VS Code, we need the code path of the application.

Steps to get the code path of the application:

Step 1: Open the file location.

Step 2: Right-click on the application and click on properties.

Step 3: Copy the target from the target section.

After copying the target of the application, save the target into a variable. In this code we are saving the target path into a variable called CodePath, and then we are using the os module to open the application.

To open the Powerpoint:

To open the Powerpoint in our laptop, we need the code path of the application.

Steps to get the code path of the application:

Step 1: Open the file location.

Step 2: Right-click on the application and click on properties.

Step 3: Copy the target path.

After copying the t of the application, save the target into a variable. In this code we are saving the target into a variable called CodePath, and then we are using the os module to open the application.

To open the MS Excel:

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To open the IDLE:

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Step 2: Right-click on the application and click on properties.

Step 3: Copy the target from the target section.

After copying the target of the application, save the target into a variable. In this code we are saving the target into a variable called CodePath, and then we are using the os module to open the application.

To open the MS Word:

To open the VS Code, we need the code path of the application.

Steps to get the code path of the application:

Step 1: Open the file location.

Step 2: Right-click on the application and click on properties.

Step 3: Copy the target from the target section.

After copying the target of the application, save the target into a variable. Here, I am saving the target into a variable called CodePath, and then we are using the os module to open the application.

To open the Chrome:

To open the VS Code, we need the code path of the application.

Steps to get the code path of the application:

Step 1: Open the file location.

Step 2: Right-click on the application and click on properties.

Step 3: Copy the target from the target section.

After copying the target of the application, save the target into a variable. In this code we are saving the target into a variable called CodePath, and then we are using the os module to open the application.

To open whatsapp on chrome:

We have given the path of whatsapp web in Jarvis. Whenever we speak Jarvis to open whatsapp. It will open whatsapp web from chrome using the path specified in it.

For knowing about daily weather:

To know what is today's temperature we need to open any website, which will give us detail of daily weather. Then copy the path of that website and paste it under the query named "**tell about today weather**"

To send Email:

To send an email, we need to import a module called smtplib.

What is smtplib?

Simple Mail Transfer Protocol (SMTP) is a protocol that allows us to send emails and route emails between mail servers. An instance method called **sendmail** is present in the SMTP module. This instance method allows us to send an email. It takes 3 parameters:

- **The sender:** Email address of the sender.
- **The receiver:** T Email of the receiver.
- **The message:** A string message which needs to be sent to one or more than one recipient.

We will create as sendEmail() function, which will help us send emails to one or more than one recipient.

We should '*enable the less secure apps*' feature in your Gmail account. Otherwise, the sendEmail function will not work properly.