# AI, ML(Tool) Based Jarvis Virtual Assistance

**Bhuwan Kumar Sharma, student Gyan Ganga college of technology Jabalpur**

**sharmabhuwan2001@gmail.com**

**Dr. Vimmi Pandey professor Gyan Ganga college of technology Jabalpur, vimmipandey@ggct.co.in**

**Om Singh Parihar, professor, Gyan Ganga College of technology Jabalpur, ommsingh@gmail.com**

**Abstract** **Jarvis the virtual assistant is a general-purpose desktop-based application software that understands voice commands and completes tasks or reply to query said by the user. Virtual assistant is software program which helps user to ease their daily tasks, such as current news, weather reports, browsing on internet, performing some basic operations on your system and many more. Jarvis virtual assistant is designed to work efficiently on desktop. Virtual assistant improves productivity of user by managing daily routine tasks of the user and provides general information from Internet\online sources to the user. Virtual assistant is now days turning to be smarter& more intelligent than ever. As a personal assistant, Jarvis assists the end-user with day-to-day activities like general human conversation, searching queries in google, Bing or yahoo, searching for videos, retrieving images, live weather conditions, word meanings, searching for medicine details, health recommendations based on symptoms and reminding the user about the scheduled events and tasks. The user statements/commands are analysed with the help of machine learning to give an optimal solution.**

*Keywords***:** *Jarvis, Virtual Assistant, Personal Assistant, Digital Assistant, Voice Assistant, Desktop Assistant.*

## I. INTRODUCTION

Artificial intelligence when used with machine it look like a thinking with human in this computer system is designed by a typically required interaction from human. As we know python is very easy &enjoy full language. It became easy to write a script for voice assistance in python. In this assistance it should be handle all the requirement of user .Speech recognise is like Alexa, Siri, google etc. In python there is API called speech recognition which is allow to access to convert all the text. It would be like a very interesting task to make a own assistant. It easy to send a email without typing a word, searching a google without opening the browser, and performing many other daily task like playing music, opening YouTube and playing favourite music like "Alex walker" with the help of single voice.by making this project .I realize that concept of AI In every field is decreasing human effort and saving time.

## II. METHODOLOGY

We used the version of waterfall for the improvement of the mission as

- requirements are not exchange frequently
- software isn't that complex and massive
- The venture is brief and simple
- Requirement is clear
- surroundings is solid

- assets are available and educated
- modification is easy
- easy to complete all the stage
- Product definition is stable.

The earliest and sequential application improvement life cycle version regarding the marketplace is Waterfall technique. Whichever undertaking there's, it's divided into exceptional collection of levels called initiation, analytics, layout, developing, trying out and deployment. The motive in the back of such phases is that no person can pass on to a subsequent step without finishing the preceding step. Because of this motive, it's once in a while mentioned as linear sequence App development life Cycle model

**TASKS PERFORMED IN EACH STAGE OF PROJECT**

1. Requirement analyse stage: necessities of the gadget have to expand have been gathered.

2. Design level: Plan the programming languages, framework would are required or the design the format.

3. Implementation level: all the work inclusive of programming/coding is accomplished in this level.

Four. Checking: take a look at the application on debugging mode to check all of the vital functionalities as decided. If located any worm then resolve them.
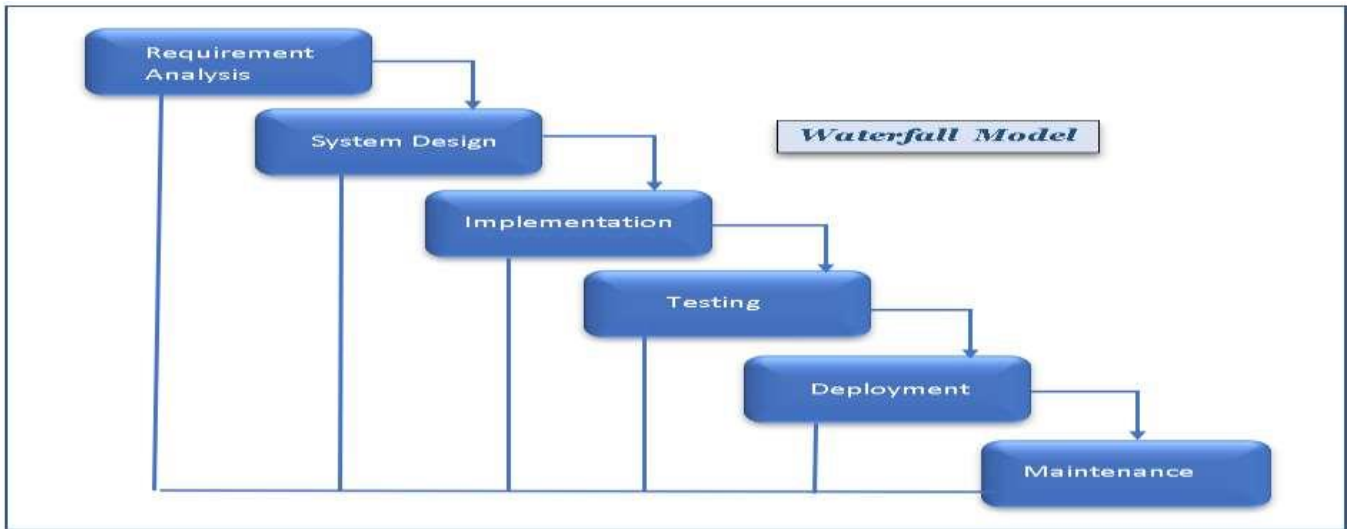
## III.    MODELLING AND ANALYSIS

The system starts analysing the audio commands after starting the application and process the command given by the user through the microphone. This can be same as getting any information or data shows the basic workflow of the essential process of the virtual assistant. The speech recognition module is used to convert the speech input into text. This text is then sent to the
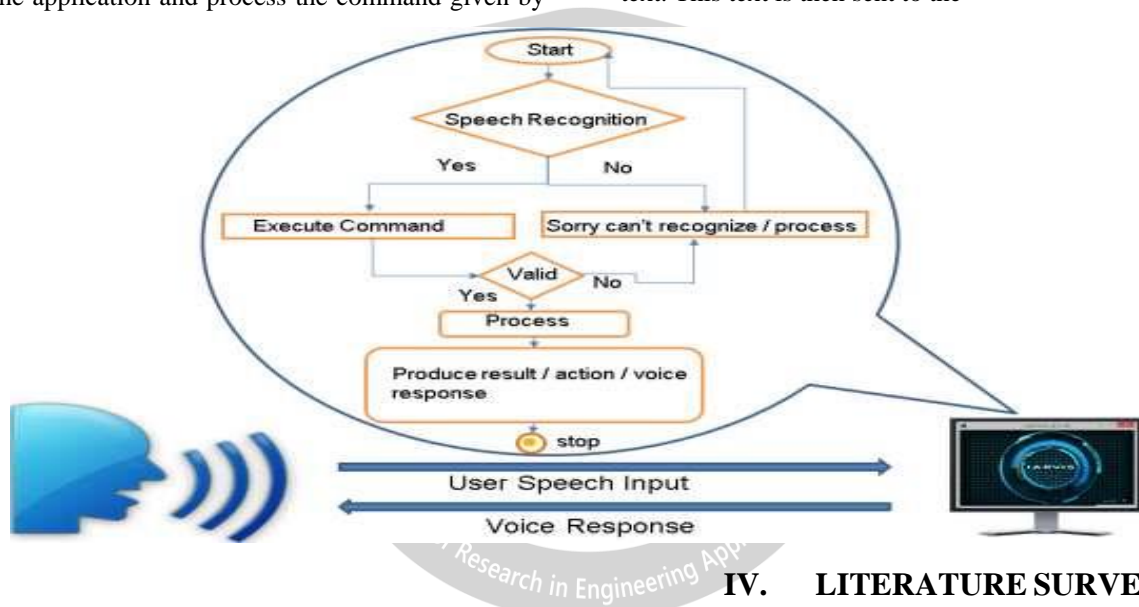


CPU(central processing unit) which determines the character of the voice command and calls the relevant script for processing and then for execution. But the complexities of the designed system don't stop there. Even with many times of giving voice input, other factors play a huge and important role in whether the application software is getting understand your voice or not. Background noises can easily disturb throw a speech recognition of the device astray. This because it doesn't intrinsic have the power to differentiate the ambient sounds it hears example: a dog barking or a helicopter flying overhead. Engineers need to program that ability into the virtual assistant; they gather data collection of those background sounds and tells the virtual assistant to clear them out. Another factor is that the humans are naturally change their voice pitch to allow for noisy surroundings; speech recognition systems are Often sensitive to those pitch changes.

## IV.    LITERATURE SURVEY

### 1 PRESENT SYSTEM:

We're acquainted with many current voice assistants like Alexa, Siri, Google Assistant, Cortana which makes use of idea of language processing, and voice recognition. They pay attention the command given by means of the person as in step with their requirements and plays that unique function in a completely green and effective manner. As those voice assistants are using artificial Intelligence consequently the result that they are imparting are tremendously accurate and green. These assistants can assist to lessen human effort and consumes time at the same time as appearing any undertaking, they removed the idea of typing absolutely and behave as another man or woman to whom we're talking and asking to carry out venture. those assistants are no much less than a human assistant, however we will say that they're greater powerful and green to carry out any task. The algorithm used to make those assistant focuses on the time

complexities and reduces time. But for the use of these assistants one have to have an account (like Google account for Google assistant, Microsoft account for Cortana) and might use it with internet connection simplest because those assistants are going to work with internet connectivity. They are included with many gadgets like, phones, laptops, and speakers and many others.

(REFRENCE 1, 2, 3,4,5)

## PROPOSED SYSTEM:

It turned into an interesting mission to make my very own assistant. It have become simpler to ship emails without typing any phrase, looking on Google without beginning the browser, and performing many other every day responsibilities like gambling music, commencing your favourite IDE with the help of a unmarried voice command. Jarvis is different from different conventional voice assistants in terms that it is specific to computing device and person does now not need to make account to apply this, it does now not require any net connection at the same time as getting the instructions to carry out any specific venture. The IDE used on this mission is PyCharm. All of the python documents were created in PyCharm, and all the essential programs had been effortlessly installable on this IDE. For this mission following modules and libraries were used i.e., pyttsx3, Speech recognition, Date time, Wikipedia, Smtplib, pywhatkit, pyjokes, pyPDF2, pyautogui, pyQt etc. have created a stay GUI for interacting with the JARVIS because it gives a layout and interesting look while having the conversation. With the development JARVIS can carry out any mission with identical effectiveness or can say more efficiently than us. By making this task, I realized that the concept of AI in every area is lowering human attempt and

saving time. Functionalities of this challenge encompass, it is able to ship emails, it is able to read PDF, it may send text on WhatsApp, it is able to open command activate, your favourite IDE, notepad and many others., it could play song, it can do Wikipedia searches for you, it could open websites like Google, YouTube, and many others., in an internet browser, it may give climate forecast, it could supply computer reminders REFENCE (6,7,8,9,10)

## V.    IMPLIMENTATION

### ALGORITHM AND PSEUDO CODE

The idea of Jarvis's Algorithm is simple,

We start from the leftmost point (or point with minimum x coordinate value) and we keep wrapping points in counter clockwise direction.

The idea is to use orientation () here. Next point is selected as the point that beats all other points at counter clockwise orientation, i.e., next point is q if for any other point r, we have "orientation (p, r, q) = counter clockwise".

### FOLLOWING DETAIL ALGORITHM

1) Initialize p as leftmost point.
2) Do following while we do not come back to the first (or leftmost) point.
    a) the next point q is the point such that the triplet (p,q,r) is

Counter clockwise for any other point r.

    b) Next  [p] = q (store q as next of p in the output convex hull).
    c) P = q(set p as q for next iteration
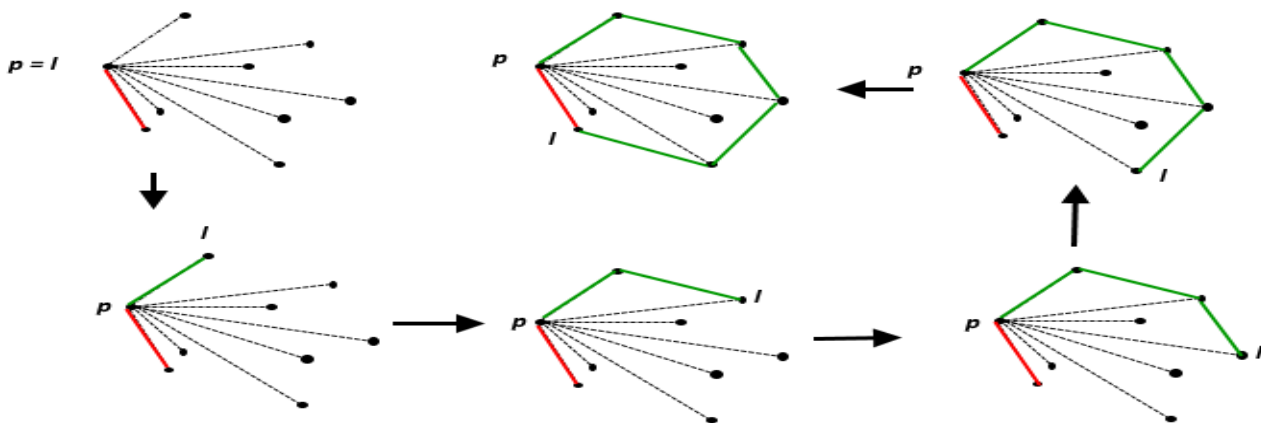


The execution of jarvis's March

The Pseudo code of gift wrap algorithm (Jarvis march algorithm) is the following
Jarvis(s)
    //s is the set of point
Point on hull = leftmost point in s //which is guaranteed to be part of the

Hull (s)
 I = 0
Repeat
  P [i] = point on hull
Endpoint = s [0]   //initial endpoint for candidate edge on the hull
  For j from 1 to |s|

If (endpoint == point on hull) or (s [j] is not left of line from p [i] to endpoint)

    Endpoint = s [j] // found greater left turn, update endpoint

I =i+1

Point on hull = endpoint

Until endpoint == p [0]   // wrapped around to first hull point

Animation of Gift Wrap Algorithm (Jarvis March Algorithm):
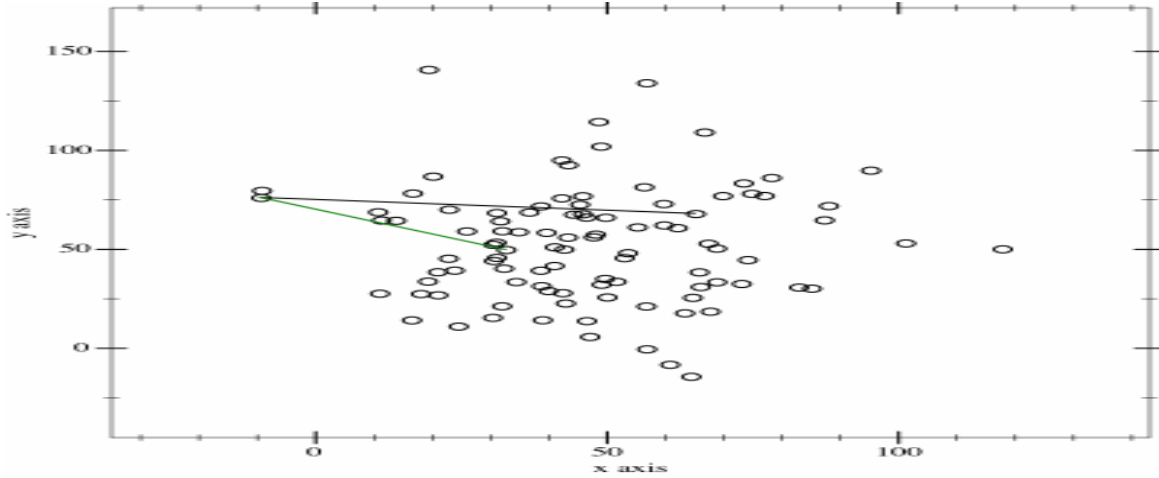


## VI. RESULT AND DISCUSSION

In this section, we are discussing through some of the snapshot of project

Here a brief report is present about the advantages and disadvantages: -

**ADVANTAGES:**

Human Errors Reduced: Human smoke mistakes from time to time, which is why the term "human error" was coined Instead of Humans, he takes chances. Available Faster Decisions 24 hours a day, 7 days a week.

**DISADVANTAGES**:

High Creation Costs: Because AI is evolving daily, hardware and software must be upgraded on a regular basis to keep up with the current requirements Making People Lazy: AI is making people lazy by automating the majority of their tasks.

## VII.    CONCLUSION

Through this voice assistant, we have automated various services using a single line command. It eases most of the tasks of the user like searching the web, retrieving weather forecast details, vocabulary help and medical related queries. We aim to make this project a complete server assistant and make it smart enough to act as a replacement for a general server administration. The future plans include integrating Jarvis with mobile using React Native to provide a synchronised experience between the two connected devices. Further, in the long run, Jarvis is planned to feature auto deployment supporting elastic beanstalk, backup files, and all operations which a general Server Administrator does. The functionality would be seamless enough to replace the Server Administrator with Jarvis.

## REFRENCE

[1] Crevice, D. (1993). AI: The Tumultuous Search for Artificial Intelligence. New York, NY: Basic Books, ISBN 0-465-02997-3

[2] Sadun, E., &Sande, S. (2014). Talking to Siri: Mastering the Language of Apple's Intelligent Assistant

[3] Nguyen, A. and Wobcke, W. (2005), "An Agent-Based Approach to Dialogue Management in Personal Assistant", Proceedings of the 2005 International Conference on Intelligent User Interfaces.

[4] Wobcke, W., Ho. V., Nguyen, A. and Krzywicki, A. (2005), " A BDI Agent Architecture for Dialogue Modeling and Coordination in a Smart Personal Assistant", Proceedings of the 2005 IEEE/WIC /ACM International Conference on Intelligent Agent Technology.

[5]Virtual assistant Using Python

[6] Extrudesign.com

[7]                www.pythonprogramming.net www.Geeksforgeeks.com

[8] Documents Referred: Designing Personal Assistant Software for Task Management using Semantic Web Technologies and Knowledge Databases - Purus Hotham Botla

[9] Vora, J., Yadav, D., Jain, R., and Gupta, J. (2021). "Jarvis: A pc voice assistant.

[10] Sang pal, R., Garand, T., Vaykar, S., and Madhavi, N. (2019). "Jarvis: An inter-predation of AIML with integration of gtts and python." 2019 2nd International Con-ferrous on Intelligent Computing, Instrumentation and Control Technologies (ICI-CICT), Vol. 1. 486489.