Review on:

JARVIS: AI Voice Assistant

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Introduction:

AI voice assistant, also known as a virtual or digital assistant, is a device that uses voice recognition technology, natural language processing, and Artificial Intelligence (AI) to respond to people. Through technology, the device aggregates user messages, breaks them down, rates them, and gives meaningful feedback in return. Artificial intelligence can bring real conversations. Virtual assistants, understand natural language voice commands and performs tasks for users. These tasks, previously performed by a personal assistant or secretary, include dictation, reading text messages or exchanging email messages aloud, schedule appointments for end users.

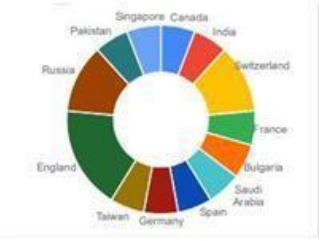
Survey Table:

S. No	Project	Technologies	Result	Issues
1.	Voice Assistant using python	Voice activation, automatic speech recognition, dialog management	Design and implementation of digital assistance	Absence of additional or multiple features
2.	AI based voice assistant	Python 2.7 , Spider, json, machine learning	A modern model with some advance features established.	Similar with basic prototype and lacks multidimensionality
3.	An interpretation of AIML with integration of gTTS and Python	gTTS(Google text to speech), AIML(Artificial Intelligence Markup Language)	Integration of gTTS, AIML	Dependency on a particular platform
4.	Interoperability in virtual world	WWW(World wide web) services, HTTP, XML	Virtual world's communication, real world to virtual world (R2V)	Less vulnerable to modern operating systems
5.	Natural language understanding	Artificial Intelligence, Natural language processing	Understanding of natural language processing, syntact processing	Only developing the understanding of NLP, difficult to implement
6.	Chabot song recommender system	Python, chatterbot library, list trainer	Developing basic Chabot system	Dedicated to a particular feature only
7.	AI Chabot in python	Pip , NumPy, tensorflow, random	Automated communication system developed	Limited to certain queries and conversation

2. Related Work :

2.1 Generalization:

The below mentioned pie chart shows the analysis of virtual assistants in context to education as well as purpose of this work with a total of papers from 13 countries. The highest contribution was made by country England with most number of papers (3), followed by Russia and Switzerland (2 papers each).



2.2 Specific Researches:

AI technologies appear to be extensively adopted, folks don't use them in some cases. Technology adoption has been studied for several years, and there is a square measure, several general models, within the literature describing it. How-ever, having a lot of made-to-order models for rising technologies upon their options appears necessary. during this study, we have a tendency to develop an abstract model involving a replacement system quality construct,

3. System Analysis

3.1 Training Model:

With the help of NN as neural network and NLP as natural language processing, create a brain of the model. And, with the help of machine learning modules and Deep Learning modules built emotions in the model and dataset to help the model in training.

3.2Neural Networks:

"NN reflects the behavior of the human brain, enabling computer programs to recognize patterns and solve common problems in artificial intelligence and other AI applications". An Artificial Neural Networks (ANNs) consists of a layer of nodes, including an input layer, one or more hidden layers, and an output layer. Each node is connected to another node, with weights and thresholds associated with it. If the output of an individual node is greater than the specified threshold, that node wakes up and sends data to the next layer of the network

3.3 Speech Recognition System:

The speech recognition system is the core of the voice application system, which is capable of understanding the voice input given by the user, and at the same time operating the applications efficiently and generating voice feedback to the user.

3.4 Natural Language Processing:

NLP implies "Natural Language Processing", which is part of the user language of computer science and one of the applications of artificial intelligence. This is a technology used by machines to understand, analyze, manipulate, and interpret human language.

3.5 Linear Regression Concept:

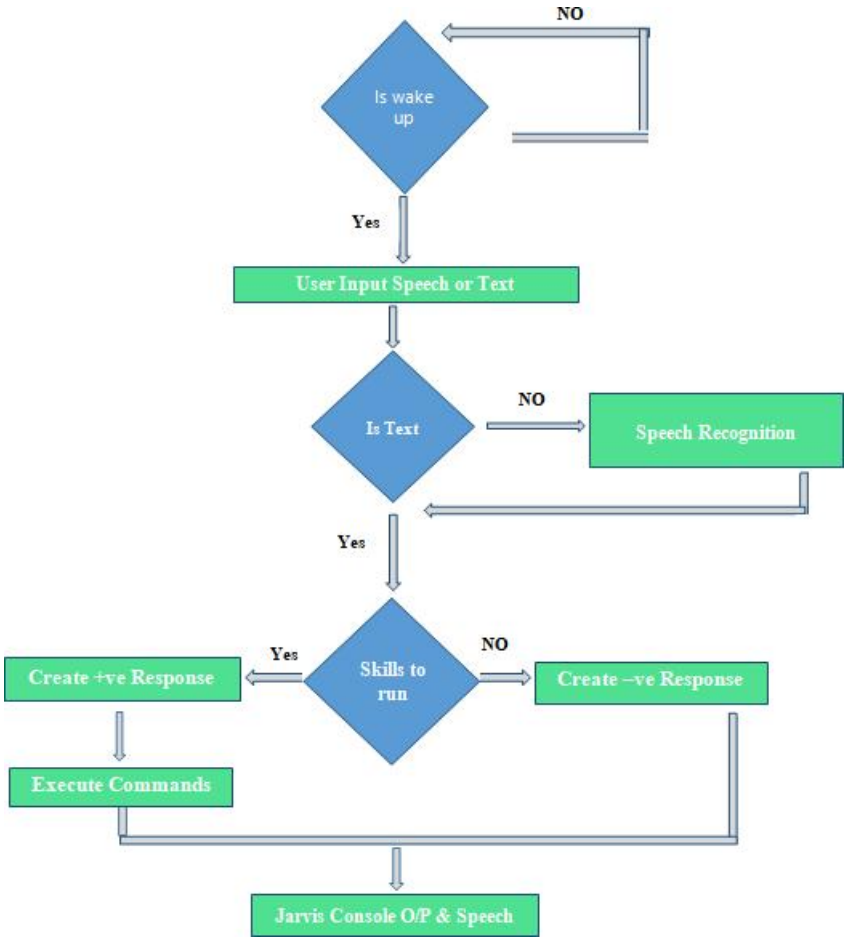
This algorithm is a method of finding a linear relationship between a dependent variable and an independent variable by minimizing the distance. This is a supervised algorithm. Here, we use a machine learning supervised algorithmic approach to categorize individual categories. Using this algorithm, we created a voice assistant model that allows users to predict relationships between dependent and independent entities.

4. Proposed System

The voice assistant initiates voice mode and prompts the user to provide input in voice/text format for best results from the voice assistant. As this program can also be controlled with your phone with help of an application 'WO-MIC', it just turns any android phone into a wireless microphone and helps in the reduction of unwanted noise in the environment.

- **Wikipedia's search**
- **Weather Forecast**,
- **Open Applications**
- **Close Applications**
- **Automation**,
- **Voice Assistant caneven repeat the user's words**
- **WhatsApp Messages**
- **Checking Internet Speed**
- **Checking my location**
- **Listening to music**,
- **Audiobooks**,
- **Sending Mails**,
- **TimeTable Notification**,
- The **Voice Assistant can answer any query**
- **setting alarm**
- **ScreenShot**
- **Calculations**
- **Getting Current News**

Flow Chart:



Conclusion :

Jarvis - An AI Voice Assistant System uses speech recoginition, gTTs and other AI techniques along with Neural Networks and Natural Language Processing for a smart responsive system to the given circumstances or conditions. It can reduce the workload of basic human activities or the daily activities and can replace some human working posts like personal secretaries employed for scheduling a person's per day time table. Critically, the system is designed to interrelate with other sub-systems smartly and comprehensively.

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