# 1. Dekate, Abhay & Kulkarni, Chaitanya & Killedar, Rohan. (2016). Study of Voice Controlled Personal Assistant Device. International Journal of Computer Trends and Technology. 42. 42-46. 10.14445/22312803/IJCTT-V42P107.

**Summary:**

The study on the use of voice-controlled personal assistant devices is presented in the paper. The paper offers a thorough review of the literature on the state of the art in voice assistant technology and research. The performance of "Jarvis," a voice-controlled personal assistant device, in recognizing and carrying out voice commands is then the subject of an empirical investigation by the writers. They assess the device's reliability, response time, and capacity to understand orders in a variety of languages and accents.

According to the study, Jarvis can recognize voice instructions with a high degree of accuracy in a variety of languages and dialects and with a reaction time of under a second. The authors draw the conclusion that voice-controlled personal assistant devices could offer a comfortable and effective user interface for a variety of applications, including home automation, healthcare, and entertainment.

Overall, the paper provides insights into the technology and performance of voice-controlled personal assistant devices.

**Drawbacks:**

* The study was conducted on a small sample size, which may limit the generalizability of the results.
* The authors did not perform a comparative analysis of different voice assistant devices, which could have provided more insights into their strengths and weaknesses.
* The study did not consider the impact of user demographics such as age and gender, which could influence user satisfaction and adoption of voice assistant devices.
* The authors did not investigate the ethical and legal implications of using voice assistant devices, such as data privacy, security, and ownership.

# 2. Gupta, Siddhi & Joshi, Devanshi & Kolpate, Krutika & Sharma, Dhruv & Parmar, Mrs. (2022). Personal Voice Assistant. International Journal for Research in Applied Science and Engineering Technology. 10. 2127-2131. 10.22214/ijraset.2022.42730.

**Summary:**

The concept and execution of a voice-controlled personal assistant system are presented in the paper. The system can do a variety of things, like playing music, checking the weather, creating reminders, and sending messages. First the paper gives a general description of the idea of personal assistant systems and their rising popularity. The paper continues by outlining the voice assistant system's core technology, which includes speech recognition, natural language processing, and text-to-speech conversion. The voice assistant system, which was developed using the Python programming language and a number of open-source libraries, is also covered in the article along with its design and implementation. The system architecture and the many parts necessary for it to operate are described by the authors. The paper also provides an analysis of user input and the system's performance evaluation, which includes accuracy testing. The outcomes show a high level of speech recognition accuracy and user satisfaction with the system's functionality.

The overall discussion of the design and execution of a voice-controlled personal assistant system in the paper is instructive and thorough. The study shows how voice assistant technology has the potential to offer a hands-free and natural user interface for carrying out a variety of tasks, increasing user productivity and convenience.

**Drawbacks:**

* The planned voice assistant system is not compared to other voice assistant systems that are already in use, which would have shed more light on its advantages and disadvantages.
* The study may not be comprehensive enough to provide reliable and valid results due to limitations in methodology, sample size, or data collection.
* The paper does not provide a detailed technical analysis of the performance of the voice assistant system, such as response time and system resource utilization, which could have provided more information on its accuracy and efficiency. The study may not provide sufficient evidence to support the claims and conclusions made by the authors.
* Similar to the previous paper, the paper does not investigate the impact of user demographics such as age and gender on the user satisfaction with the voice assistant system.

# 3. S. Subhash, P. N. Srivatsa, S. Siddesh, A. Ullas and B. Santhosh, "Artificial Intelligence-based Voice Assistant," 2020 Fourth World Conference on Smart Trends in Systems, Security and Sustainability (WorldS4), London, UK, 2020, pp. 593-596, doi: 10.1109/WorldS450073.2020.9210344.

**Summary:**

The design and implementation of a voice assistant system based on artificial intelligence (AI) technology are presented in the paper. The system is made to carry out a number of functions, including playing music, setting reminders, answering queries, and managing smart home gadgets, among others. The paper starts off by giving a general introduction to the idea of voice assistants and their rising popularity. They continue by outlining the AI-based voice assistant system's core technology, which includes speech recognition, natural language processing, and machine learning algorithms. The voice assistant system, which was developed using the Python programming language and a number of open-source libraries, is also covered in the article along with its design and implementation. The system architecture and the many parts necessary for it to operate are described by the authors. The paper also provides an analysis of user input and the system's performance evaluation, which includes accuracy testing. The outcomes show a high level of speech recognition accuracy and user satisfaction with the system's functionality.

Overall, the paper offers a comprehensive and exhaustive explanation of the development of an AI-based voice assistant system overall. The study highlights how AI technology has the ability to improve voice assistant functionality and offer users with more tailored and effective user experiences.

**Drawbacks:**

* The study does not provide a comparative analysis of the proposed AI-based voice assistant system with other existing voice assistant systems, be it AI-based or non-AI-based, which could have provided more insights into its strengths and weaknesses.
* The paper does not provide a detailed technical analysis of the performance of the AI-based voice assistant system, such as response time and system resource utilization, which could have provided more information on its accuracy and efficiency.
* Similar to the other papers, the paper does not investigate the impact of user demographics such as age and gender on the user satisfaction with the voice assistant system.

4. B. S. Atal and L. R. Rabiner, “A pattern recognition approach to voiced unvoiced-silence classification with applications to speech recognition,” Acoustics, Speech and Signal Processing, IEEE Transactions on, vol. 24, no. 3, pp. 201–212,1976.

**Summary:**

The most significant declarations and speeches have been covered in writing by Bassam A., Raja N., and others. Humans and machines communicated via an analogue signal, which was then converted to a digital wave by speech. This technology is extensively utilized, has many uses, and enables computers to respond to human voice commands with accuracy and consistency while also offering useful and appreciated features. Speech Recognition System (SRS) is gaining popularity and has several uses. The research has provided a summary of the strategy; it is a fundamental model [1]. According to B. S. Atal and L. R. Rabiner et al., speech analysis and pitch analysis are frequently used in conjunction with one another. The study created a pattern recognition method for determining whether a certain slice of a speech signal should be categorised as voiced speech, unvoiced speech, or silence based on signal dimensions.

Drawbacks:

* The paper was published when speech recognition technology was still in its early stages, and the dataset used in the study may be limited in size and variety, which could limit the generalizability of the proposed approach.
* The paper's approach assumes that speech can be modeled as a stationary process, which may not be accurate for all types of speech signals, leading to possible errors in classification.
* The paper did not compare the proposed approach's performance with other state-of-the-art approaches at that time.
* The paper does not provide implementation details of the proposed approach, making it difficult to reproduce the results or to apply the approach in practice.