**Module 15**

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**Topic: Speech Recoginition**

Write down some of the disadvantages of speech recognition and its applications.

**Answer:**

**Speech** **recognition**: speech recognition is a multifaceted subfield of computational dialectology that develops technologies and methods that assists the recognition and conversion of speech to text by the computers. It is often referred to as computer speech recognition, automatic speech recognition (ASR) or speech-to-text (STT). It combines research and knowledge in computer science, electrical engineering and linguistics fields.

Speech recognition denotes identifying the speaker, rather than what they are saying while speech analysis denotes comprehending the speech and deciphering each word. Detection of the speaker can streamline the job of translating the speech in the software or systems that have been particularly designed for this purpose. Speech recognition and analysis are usually used to verify, authenticate and differentiate the identity of a speaker in many fields such as during a security the recent years have seen an uphill in the development of speech recognition and analysis software. Major innovations have been done in making these systems more efficient. With the advancement in the technologies, the developers have been able to achieve new heights in this field. Due to the introduction of the latest trends in technologies like machine learning, big data analytics and deep learning, the speech analysis arenas have profited.

These state-of-the-art trends are gradually being adopted by industries currently working in this field. The surge in the demands of these products proves that the concept of speech recognition and analysis is here to stay.

More and more companies are adopting this technology for their benefits. Varieties of methods are being applied to design, strategize, implement and deploy speech recognition systems. check.

**Disadvantages of Speech Recognition:** The following are the obstructions that one comes when we deal with the functioning of speech recognition:

**1.** **Emotions:** The variations in emotions can be an obstruction in the smooth flow of speech.

**2. Spontaneous Speech**: This type of speech is difficult to comprehend by the speech recognition and analysis systems.

**3. Prosody:** The disparities in the tones, phonetics, etc. can also become an obstruction.

**4. Naturalness:** The languages spoken spontaneously are sometimes not comprehensive enough for the speech recognition and analysis systems to catch.

**5. Sparsely Spoken Languages**: Since these languages are hardly spoken, they are not fed into the systems along with the commonly used languages.

**6. Disadvantages related to Different Types of Systems:** Different systems have different approaches to speech recognition and analysis and sometimes a glitch occurs, hampering the process.

**7. Ambiguities:** Even today, uncertainties exist regarding the functioning of these speech recognition and analysis systems.

**8. Speech Synthesis for the Older People:** The speech of elderly is a little ambiguous and slurry. This turns out to be a barrier for the speech recognition and analysis systems to catch on.

**Applications of Speech Recognition:**

**1. In the field of Telecommunication:**

* Automation of Operator Services
* Voice Recognition Call Processing (VRCP) system
* Automated Alternate Billing System (AABS)
* Automation of Directory Assistance
* Voice Dialling

**2. Automobiles:** car Bluetooth system.

**3. In Military Field:**

* Training air traffic controllers
* Helicopters
* High-Performance Fighter Aircraft

**4. In the field of Health Care:**

* Use in Therapeutics
* Medical Documentation