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## A review of methods used for recognition of Indian language speech

P.P. AGNIHOTRI, R.V. SHINDE AND P.B. KHANALE

### ABSTRACT

Automatic Recognition of Voice commands by the machine is a need over a long period of time. In India the language of the peoples changes over every 300 kms. Speech is most complex signal and powerful tool for communication. The Indian Languages are syntactically and semantically different from global language like English. This paper represents the existing methodologies used for recognition of Indian language speech.

**Key words :** Speech recognition, Speech synthesis, Speaker dependency, Indian languages, HMM

Speech recognition is the process by which a computer identifies spoken words. Basically, it means talking to your computer, and having it correctly recognize what you are saying. The following definitions are the basics needed for understanding speech recognition technology (Cook, 2002).

#### Utterance:

An utterance is the vocalization (speaking) of a word or words that represent a single meaning to the computer. Utterances can be a single word, a few words, a sentence, or even multiple sentences.

#### Speaker dependence:

Speaker dependent systems are designed around a specific speaker. They generally are more accurate for the correct speaker, but much less accurate for other speakers. They assume the speaker will speak in a consistent voice and tempo. Speaker independent systems are designed for a variety of speakers. Adaptive systems usually start as speaker independent systems and utilize training techniques to adapt to the speaker to increase their recognition accuracy.

#### Vocabularies:

Vocabularies (or dictionaries) are lists of words or utterances that can be recognized by the SR system.

#### Accuracy:

The ability of a recognizer can be examined by

measuring its accuracy - or how well it recognizes utterances. This includes not only correctly identifying an utterance but also identifying if the spoken utterance is not in its vocabulary..

#### Training:

Some speech recognizers have the ability to adapt to a speaker. When the system has this ability, it may allow training to take place. An ASR system is trained by having the speaker repeat standard or common phrases and adjusting its comparison algorithms to match that particular speaker. Training a recognizer usually improves its accuracy.

Automatic Speech recognition system is used to establish the interface between computer system and human beings in which computer system accepts the input as a speech and prints output as text. A survey of research contribution of processing of Indian languages is made [2,3]. Chandrashekhar proposed an approach to recognize constant vowels (CU) units in Indian languages using Artificial Neural Network [4]. Gangashetty *et al.* represents a neural network model for recognition of syllable like units in Indian languages [5]. Prassanna represents a method to find begin and end points of speech based on vowel onset points (VOP) [6]. Continuous speech recognition system for Hindi [7] describes various improvements carried out to the speech input system and resultant increase in performance.

Methodologies used for recognition of speech are as