Abstract

Automatic speech recognition, which was considered to be a concept of science fiction and which has been hit by number of performance degrading factors, is now an important part of information and communication technology. Improvements in the fundamental approaches and development of new approaches by researchers have lead to the advancement of ASRs which were just responding to a set of sounds to sophisticated ASRs which responds to fluently spoken natural language. Using artificial neural networks (ANNs), mathematical models of the low-level circuits in the human brain, to improve speech-recognition performance, through a model known as the ANN-Hidden Markov Model (ANN-HMM) have shown promise for large-vocabulary speech recognition systems. Achieving higher Recognition accuracy, low Word error rate, developing speech corpus depending upon the nature of language and addressing the issues of sources of variability through approaches like Missing Data Techniques & Convolutive Non-Negative Matrix Factorization, are the major considerations for developing an efficient ASR. In this paper, an effort has been made to highlight the progress made so far for ASRs of different languages and the technological perspective of automatic speech recognition in countries like China, Russian, Portuguese, Spain, Saudi Arab, Vietnam, Japan, UK, Sri-Lanka, Philippines, Algeria and India.


Nadungodage, T. and Weerasinghe, R., "Continuous Sinhala Speech

**Index Terms**

Computer Science Multimedia

**Keywords**

Language Model Hidden Markov Model Vector Quantization Dynamic Time Warping Missing Data Techniques Convolutive Non-negative Matrix Factorization