Issues and Limitations of HMM in Speech Processing: A Survey

Abstract

Speech is the most natural way of communication among humans. This mode of communication is constituted of two parts, namely sound and sense. The intelligent production and synthesis of speech has intrigued man himself for long and efforts at automated speech recognition, has gone through various phases. Hidden Markov Models (HMMs) provide a simple and effective framework for modeling time-varying spectral vector sequences. Application of HMMs to speech recognition has seen considerable success and gained much popularity. As a consequence, almost all present day speech recognition systems are based on HMMs.

The current paper presents a brief study on the HMM based technique applied to speech recognition and also discusses the issues and limitations of HMMs in speech processing.

References


Index Terms

Computer Science  Pattern Recognition
Keywords

Speech recognition, speech representation, Hidden Markov Model, implementation Issues, limitations, challenges.