Abstract

Speaker Recognition is a process by which a machine authenticates the claimed of a person from voice characteristics. A Major application includes biometric identification and security. Speaker recognition consists of the process to convert a speech waveform into features that are useful for further processing. A direct analysis and Synthesizing the complex voice signal is due to too much information contained in the signal. Therefore the digital signal processes such as Feature Extraction and Feature Matching are introduced to represent the voice signal. There are many algorithms and techniques such as Linear Predictive Coding (LPC), Hidden Markov Model (HMM), Artificial Neural Networks (ANN) and etc. Firstly, human voice is converted into digital signal form to produce digital data representing each level of signal at every discrete time step. The digitized speech samples are then processed using MFCC to produce voice features.
After that, the coefficient of voice features can go through ANN to select the pattern that matches the database and input frame in order to minimize the resulting error between them. This paper present the speaker recognition system with modification in the Computation Phases of Mel Frequency Cepstral Coefficients (MFCC) during Feature Extraction and Artificial Neural Networks for Feature matching for designing an accurate/Robust Speaker recognition.

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Index Terms

Computer Science

Signal Processing
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ANN, MFCC, Speaker recognition system, windowing.