A Comparative Study of Phoneme Recognition using GMM-HMM and ANN based Acoustic Modeling

International Journal of Computer Applications
© 2014 by IJCA Journal

Volume 98 - Number 6
Year of Publication: 2014

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10.5120/17186-7366
{bibtex}pxc3897366.bib{/bibtex}

Abstract

Phoneme is the smallest analogous unit of sound employed to form meaningful contrast between utterances. Hidden Markov Model (HMM), Gaussian Mixture model (GMM) and Artificial Neural Network (ANN) have been used in this paper to measure the accuracy and performance of recognition system using toolkits HTK, Sphinx3 and Quicknet, which are freely available for academic works. In this paper the performance of an ASR System based on Accuracy has been compared with TIMIT database.

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Index Terms
Computer Science
Information Sciences

Keywords
Automatic Speech Recognition MFCC Hidden Markov Model