

CONFUSION MATRIX AND INFORMATION TRANSMISSION ANALYSIS USING MATLAB FOR EVALUATION OF SPEECH ANALYSIS

M. T. KOLTE, D. S. CHAUDHARI AND N. B. CHOPADE

Abstract

Confusion matrices are subjected to information transmission analysis to find the relative information transmission for consonant identification and for various consonantal features like, duration, frication, nasality, manner, place, and voicing. In this paper, the MATLAB (Matrix laboratory) based GUI (Graphical User Interface) software module for confusion matrix implementation together with the associated programming environment is presented. The aim is to introduce the concepts of an automated test administration set-up used for binaural presentation of the test stimuli without requiring a rigorous theoretical background. Subject's responses were stored as response time statistics, stimulus-response confusion matrix that gives the occurrence of stimulus-response pairs, and percentage correct recognition score. Response time statistics were used to compare the effectiveness of the processing schemes in reducing the load on perception.