

**SIGNAL MODELLING TECHNIQUE FOR THE DEVELOPMENT OF
SPEECH RECOGNITION SYSTEM FOR INDIAN LANGUAGES:
ORIYA- A CASE STUDY**

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ABSTRACT

Parametric estimation of speech signal is the basis of any speech recognition system (SRS). In this paper we have focussed on the estimation of various parameters of speech signal for Oriya language. Through the use of signal processing techniques and statistical models we can construct a robust SRS. The approach that we have cited here produces a perceptually meaningful parametric representation of the speech signal that emulate some of the behaviour observed in the human auditory and perceptual systems. The algorithm is designed to maximize the recognition performance. Here we have projected the different steps involved in designing a SRS. Eighteen different parameters have been identified from a speech signal and discussed in the paper. Signal modelling and network searching are the two major steps for the syntactic pattern recognition. No feature extraction algorithm can magically normalize all variations in the observed data without some knowledge of the context of the sound. Statistical variation of the data is taken into consideration for feature extraction.