CLE RESEARCH SEMINAR

Topic: Field Testing of ASR System for Weather Domain

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Abstract

Urdu dialog based weather forecast system allows the user to get weather forecast information using Urdu language via mobile phones. Baseline speech recognition system designed for this service consists of a vocabulary of 139 district names of Pakistan. The stability of ASR systems largely depends on factors like accent, gender, age of speakers, background noise and channel variations. To incorporate acoustic variations that are result of regional accent variation, data of four widely spoken accents (i.e., Punjabi, Urdu, Pashto and Balochi) of Urdu language has been incorporated into the system. Both accent dependent and accent independent ASR systems has been built on this accented data, having an offline accuracy of 92.76% and 91.87% respectively. This offline testing of ASR system provides the accuracy of the system in an ideal scenario where it is assumed that user will respond to system prompts in a specific manner. To get the feel of ASR in real-world scenarios and to evaluate its performance in the places where the system is intended to be used, robust field testing of ASR systems has been conducted. The results obtained show a drop in word ASR accuracy in the field which comes out to be 64.91% in case of accent dependent ASR and 84.43% in case of accent independent ASR system.