

Augmented Reality for Realtime Speech Recognition

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Abstract: *Choosing the proper word out of samples with similar acoustic structures is a significant difficulty in speech recognition research, according to a case study of a basic domain-based speech recognition solution in speech recognition augmented reality products for hearing impaired persons. Our goal is to increase transcription accuracy in local vocabulary situations like meetings and lectures. To construct real-time "live subtitles" utilising a unique voice recognition mechanism by combining our approach in an augmented reality environment. This programme allows hearing impaired and deaf persons to view real-time augmented reality subtitles while listening to a talk/speech on a certain topic. In the model of a tree-structured Hidden Markov Model (HMM) for speech recognition, there are different types of networks and graphs involved. These networks and graphs play a crucial role in modeling and representing the relationships, transitions, and probabilities involved in speech recognition using tree-structured HMMs. They enable efficient modeling, adaptation, and recognition of speech signals in real-world noisy environments.*

Keywords: Methods and algorithms: HMM, GMM, MLLR, Piecewise Linear Transformation, Python

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