

# DETECTION AND SMOOTHENING OF SPECTRAL DISCONTINUITIES IN CONCATENATED SYNTHESIZED SPEECH WAVEFORM

Name of Student : Birpal Kaur (1411642)

Deptt. : CSE

Guide : Parminder Singh & Kamaldeep Kaur

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## ABSTRACT

In today's fast developing world the demand exist for applications of computer where the humans can communicate with computers through speech. Infact instead of giving text commands to computers, humans want to control them through their own voice and also want computers to respond back through voice replies. The foremost purpose of speech synthesis systems lays in production of the synthesized speech from the input text for visually impaired persons, for learning and mastering new languages, various announcements at airports etc. One of the best artificial speech synthesis methods is the concatenative synthesis due to its quality of sound. But it contains some mismatches of spectral nature at the boundaries of joins. The positions where the joins among two speech units are not matched in terms of various spectral parameters like pitch, energy, frequency etc., then the spectral mismatches are observed there. These kinds of mismatches are more audible when the databases are generally small. As in small databases, the number of choices of units present for concatenation is few which lead to mismatches among the various parameters of speech of two joining units. For detecting and removing these kinds of mismatches this thesis work has been carried out. So in order to evade the dilemma of spectral mismatches at various boundaries of concatenation, many algorithms have been purposed for processing the signal and make it smoother. Firstly the mismatches are detected with the help of proposed algorithms and then three algorithms based on various techniques are applied on the synthesized concatenative speech. The results show that after applying these algorithms the final output speech produced is smoother than the original.