Speech Processing for Stutter Detection

Speech recognition and analysis has gained much attention in the field of healthcare, military, security and machine learning scenarios. Modern speech analysis converge signal processing, pattern recognition and linguistics techniques with higher statistical framework. Research works are going on in the field of speech synthesis, improving audio quality and accuracy with flat response to compression or coding.

Stutters are classified as speech disorders where the flow of speech is interrupted by prolongation of sounds, syllables, words or phrases and involuntary silent pauses or blocks in communication. Identification and elimination of stuttering improves sound and speech quality, removing redundant and unwanted sound signals. Stutters and speech disorders has gained much interest in the field of physiology, psychology, acoustics and signal analysis.

Scope:

- Obtaining improved speech quality for real time recording
- Speech recognition security systems
- Measuring psychological illness and mental stress in children
- Improving vocal abilities, suggesting early detection for treatment

The work involves one dimensional speech signal analysis and a study of factors influencing audio quality. The flow will be stuttered data collection, signal pre-processing and feature extraction algorithm, disorder identification and correction using different classification techniques.