

Speech Signal Processing

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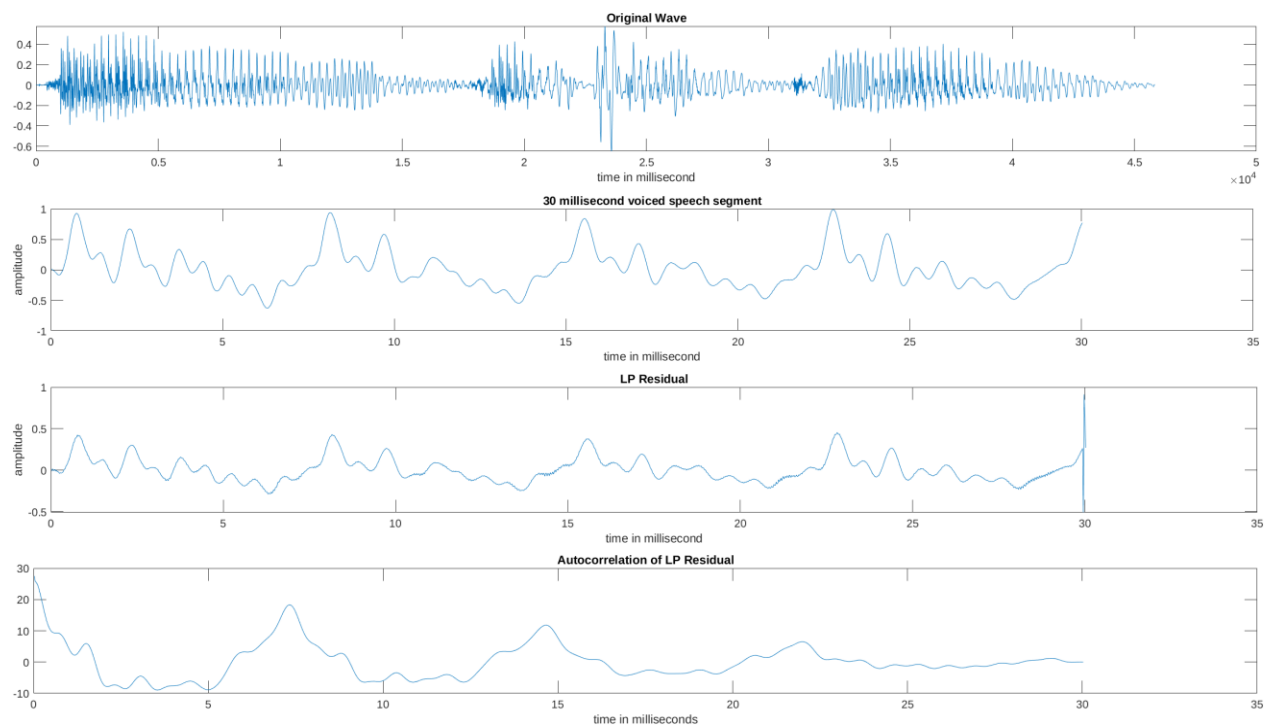
Course: ECE448

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Assignment 4

Question 1

Pitch Frequency for the selected segment = 136.5325

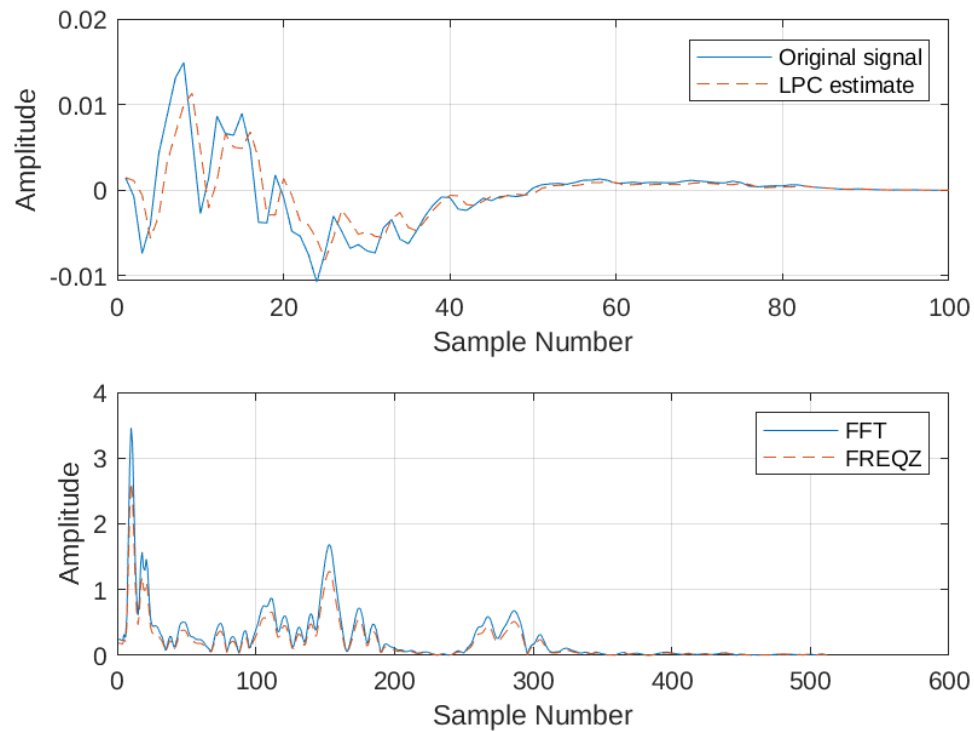


Question 2

Input file named 'q1.wav' is attached alongwith.

- The audio file which was recorded at 44100 frame rate had to be resampled to 16000 frame rate. New MATLAB versions come with the `lpc` function which do the autocorrelation for you before finding the n th order LPC. The function also returns the value for gain given estimation.

- b. The plots for the fft and freqz functions were same at all the voiced frames. They had some differences in the unvoiced frames as seen in the plot below.



On changing the order of the LPC, the quality of the reconstruction increased and then decreased. It was best around the 10-30th order.