

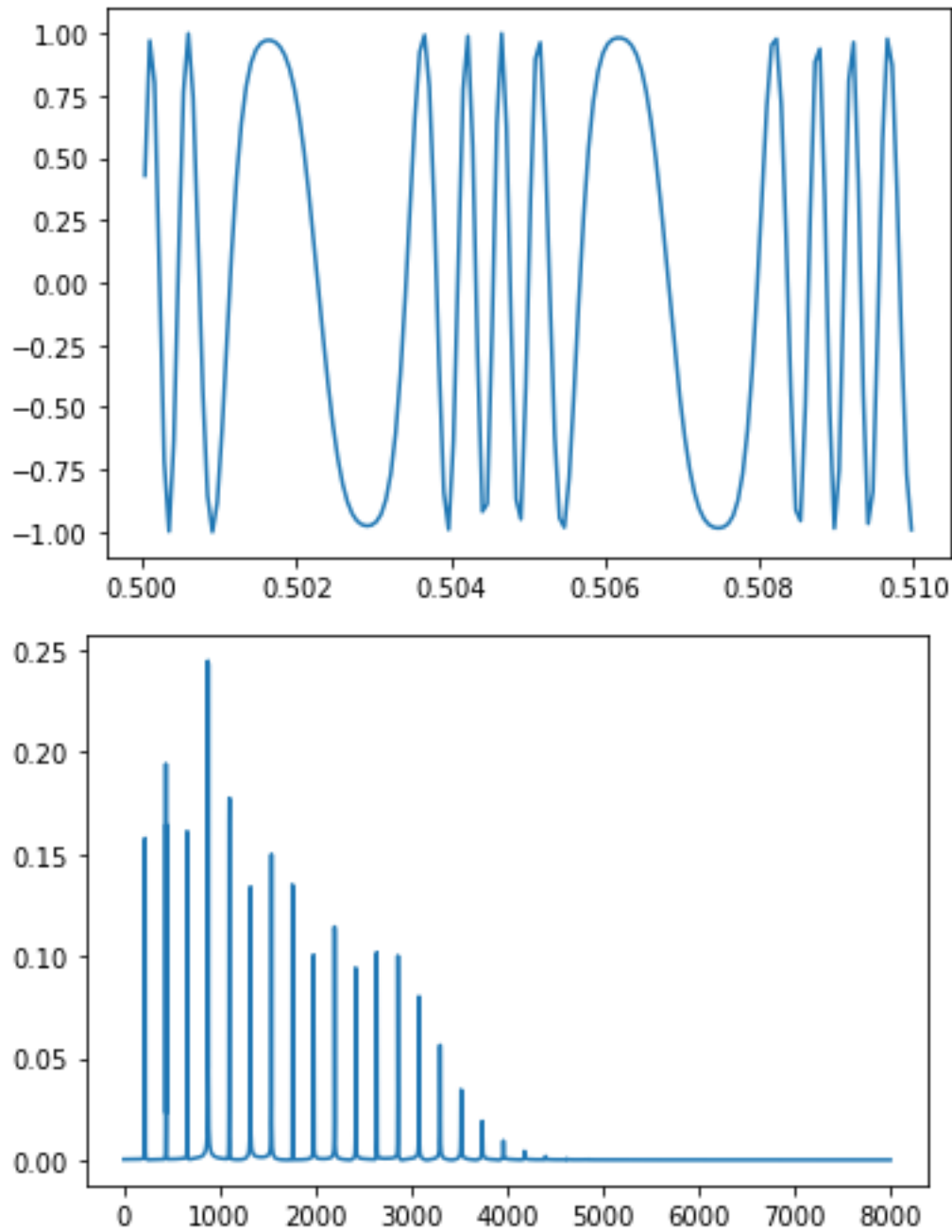
**Audio Processing**

# **Ex03 – Report**

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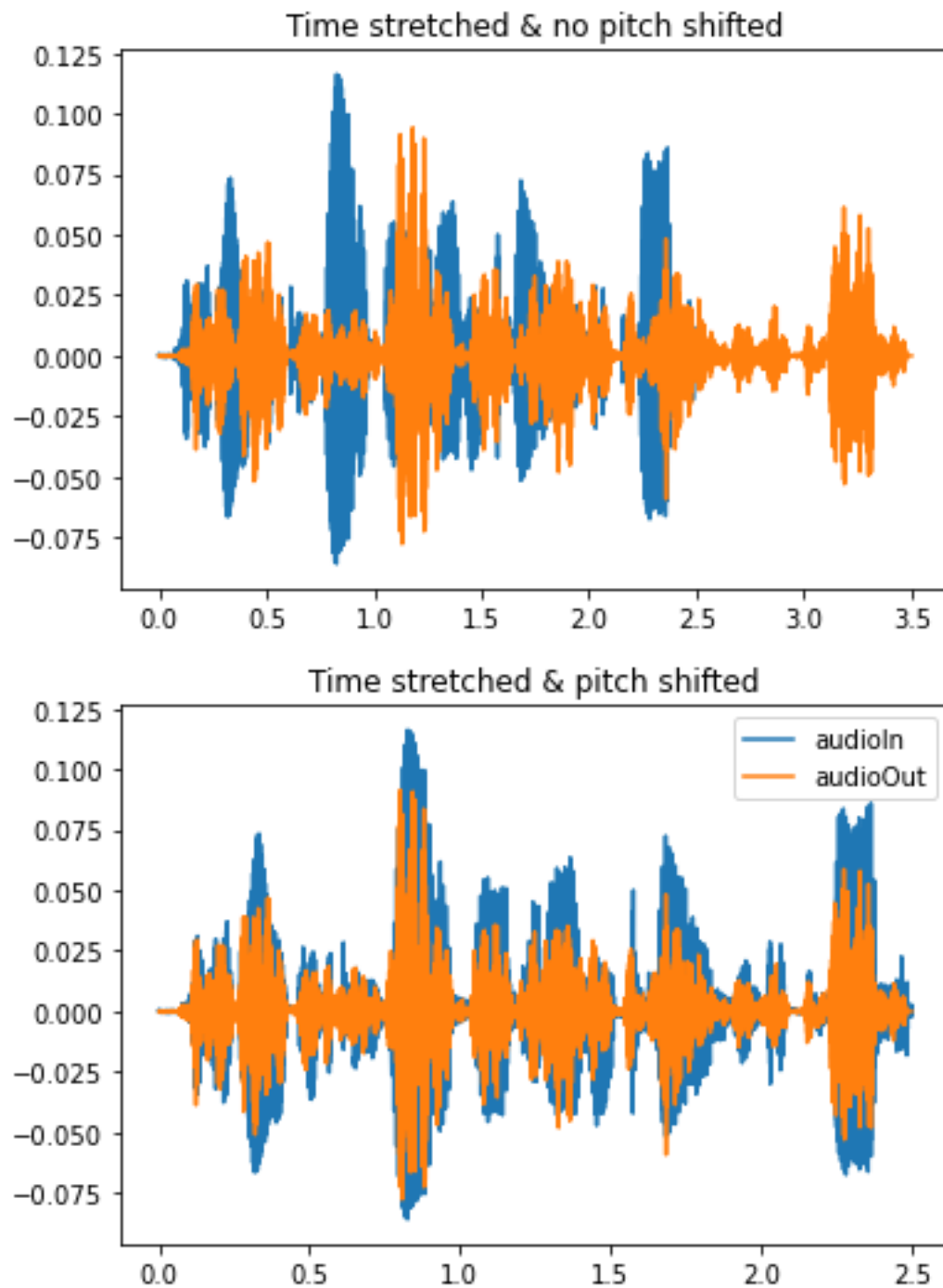
### Problem 1:



It can be seen from the graphs that spectrogram magnitude has a shape somewhat similar to a sinusoidal wave. This is because the frequency of the signal is a sum of a constant and a sinusoidal wave.

## Problem 2:

a.



There are some glitches in the output signal which is because the synthesis window is shifted faster (longer in range) than the analysis window.

I find that is also the reason of the echoing/robotic sound of output wav.

In this case the synthesis window hop length is 11.2ms ( double of analysis window hop length – 35% of window length).

Therefore, I tried reducing the analysis window hop length to 4ms  
=> synthesis window hop length is 5.6ms.

This reduces echoing significantly

